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JUNE 28TH, 1887.

FRANCIS GALTON, Esq., F.R.S., *President, in the Chair.*

The Minutes of the last meeting were read and signed.

The election of WILLIAM GOWLAND, Esq., F.C.S., A.R.S.M., of the Imperial Mint, Osaka, Japan, was announced.

The following presents were announced, and thanks voted to the respective donors :—

FOR THE LIBRARY.

From the SECRETARY-GENERAL OF THE INTERNATIONAL CONGRESS OF ANTHROPOLOGY AND PRE-HISTORIC ARCHAEOLOGY.—Compte-rendu de la huitième Session, Budapest, 1876. Second Volume, Parts 1, 2.

From the INSTITUTION.—Journal of the Royal United Service Institution. No. 139.

From the SOCIETY.—Journal of the Society of Arts. Nos. 1804, 1805.

— Proceedings of the Royal Society. No. 255.

— The Scientific Proceedings of the Royal Dublin Society. Vol. v (N.S.), Parts 3-6.

— The Scientific Transactions of the Royal Dublin Society. Parts xi-xiii.

VOL. XVII.

From the SOCIETY.—Bulletin de la Société Impériale des Naturalistes de Moscou. 1886. No. 3.

— Bulletin de la Société de Borda, Dax. 1887. Part 3.

From the EDITOR.—Nature. Nos. 920, 921.

— Science. No. 227.

— The Photographic Times. Nos. 299, 300.

— Revue d'Ethnographie. 1887. No. 1.

LIEUT.-GENERAL PITT-RIVERS exhibited a series of very fine models illustrating his recent excavations in Cranborne Chase; and read the following paper:—

*On an ANCIENT BRITISH SETTLEMENT EXCAVATED NEAR
RUSHMORE, SALISBURY.*

By Lieut.-General PITT-RIVERS, D.C.L., F.R.S., F.S.A., F.G.S.,
Vice-President Anthropol. Inst.

IN my privately-printed 4to volume of "Excavations in Cranborne Chase," vol. I, relating to the excavations in the village on Woodcuts Common,¹ I have described everything found there with the utmost detail, avoiding theory as much as possible, and desiring to make it a work of reference that could be relied upon for the forms of art of that period found in this neighbourhood. In collecting evidence from archæological works professing to be descriptive, I have often experienced the inconvenience of having to wade through a mass of speculative matter in order to pick out the facts, and I have endeavoured to avoid this error by tabulating the materials, and placing the illustrations of the objects in juxtaposition with the descriptions of them. This course, no doubt, detracts from the interest of the volume to the general public, but adds to its value to the working anthropologist and archæologist. But, in my Presidential Address to the meeting of the Archæological Institute at Salisbury, in 1887, I have enlarged a little, and shown the bearing of this discovery upon general questions.

The Romanised Britons have not, I think, been studied by anthropologists so much as they deserve. Whilst the stone and bronze age people have engrossed our attention, and we have little difficulty in speaking of their physical peculiarities or their arts, the Britons, as they were left after the withdrawal of

¹ "Excavations in Cranborne Chase, near Rushmore, on the borders of Dorset and Wilts." By Lieutenant-General Pitt-Rivers, D.C.L., F.R.S., Vol. I. Printed privately, 1887. A copy of this work has been presented by the author to the Library of the Institute.

the Roman Legions, remain a mystery to us, and afford scope for the widest divergence of opinion. Yet their influence upon the existing population of the country must have been far greater than that of the generations which preceded them. Although the late Celtic art and ornamentation, found sporadically in this country before the Roman Conquest, shows evidence of much taste and refinement, yet the three centuries of Roman occupation must be considered virtually to mark the first stages of civilisation in England, and the Briton before and after that period must have been, in many respects, a very different being. Whilst some have represented him as utterly degenerate after the Romans left, and to have been almost exterminated by the Saxons in the central and eastern part of the country, recent investigation has tended to modify this opinion considerably. There can be no doubt that we had a great and noble inheritance from Rome, and that much of it must have been passed on to us by the Britons who succeeded in inoculating their rude Saxon conquerors with what they had learnt from their old masters. It is even now believed by some that the language of the Romanised Britons was entirely Latin, and that the Celtic speech had to be reintroduced into Wales by tribes that had lived beyond the area of Roman influence in the north.

Much of this ignorance of the condition of the Britons at this time, arises, no doubt, from the difficulty of identifying their graves. A stone or a bronze age grave can be easily determined by the associated relics, but the Romans introduced so many auxiliaries and colonists from different parts of the world, that a skeleton found in association with Roman relics may be that of a native of any part of that wide region over which the Roman dominion extended. This gives additional interest to the study of the remains of people who inhabited the Wiltshire Downs in the western part of the country, in places that are remote from the Roman centres, in high and comparatively barren spots to which the aborigines are likely to have been driven by their conquerors, where the probability of finding the remains of the genuine Briton is much greater; and when we find in these places skeletons buried in pits in the villages which they inhabited, surrounded by the relics that they used in life, and the remains of their habitations, this serves still more surely to identify them as Britons; for it is unlikely that the Romans themselves, or their allies, should have paid so little attention to the remains of their dead as to throw them into pits with refuse, without any of the signs of decent burial.

Moreover, we find that those who were buried with any

signs of care were crouched up after the ancient manner of the Britons, but few having been found extended, and of these some of them buried beneath the little ramparts of the villages in such a way as to show that the latter had been thrown over them, and that the direction of the bodies was given to them by the lines of the ramparts, and the drains in which they were also found interred. All this proves them to be the remains of a subject rather than a dominant people, and the associated relics serve also to fix their age without difficulty. The pottery, of which immense quantities were found in fragments both in the pits and beneath the surface, some of it in a condition to be restored, was mostly British, and the pots resembled those found in settlements of the Roman age found elsewhere, especially in Dorsetshire. But with it were fragments of Samian of Roman manufacture, and the position of these undoubtedly Roman fragments showed that it was in use during the greater part, if not the whole, of the time of the occupation of the village. The Roman coins speak to the same effect, being of all dates from Caligula, A.D. 37, to Magnentius, A.D. 353, and they were continuous during the whole period with one considerable gap of fifty years extending from Clodius Albinus, A.D. 193, to Trebonianus Gallus, A.D. 253. No doubt many of the earlier coins were used up to a late date, and, therefore, afford no actual evidence of the duration of the period of occupation; but one special find, consisting of the remains of a box, the wood of which was found adhering to bronze ornaments and dolphin-shaped handles, appeared to have contained coins dating from Claudius, A.D. 41, to Claudius Gothicus, A.D. 270, all of which, if forming the contents of the box, must have been in use at the same time. The village also produced four British silver uninscribed coins of the type which appears, by Mr. Evans' work, to have been prevalent in this neighbourhood. These British coins may, probably, have been in use for some time after Roman occupation, but it is hardly likely they should have been employed up to the latest period, so that it seems probable the village must have been occupied early, as well as late, during the Roman era. Other circumstances point to the same conclusion. The little banks surrounding the village and its outworks, showed evidence of having been altered, and the excavations proved that, in some places, banks had been raised over spots where ditches previously existed. Such changes need not have taken centuries to develop themselves, but they prove continuity of occupation. The pits, of which ninety-five were found, were of slightly different shapes, some, about 11 feet deep, were in the form of a truncated cone, slightly larger at bottom than top, with the sides smoothly

cut in the chalk, but in no case revetted. Others were quite cylindrical, and not more than 4 feet deep. Others had a plan in the form of two or three circles cutting into each other, suggesting side chambers or cupboards, yet suggesting also the possibility of one pit having been cut and filled up again before the others were made; for it is not evident why the circular form should have been so strictly adhered to in the case of side chambers or cupboards. The depths also of these united pits did not in many cases coincide. They were all filled to the top with earth and refuse, including fragments of pottery and the remains of domesticated animals. In some places these collections of refuse looked as if it had been thrown in in a heap, but in other parts it was interspersed here and there as if it had been introduced in the earth with which the pits were filled up to the top so completely as to show no trace upon the surface before the excavations commenced. With the bones a few fragments of human skeletons were found occasionally, besides the entire skeletons of human beings which were thrown into some of the pits. Only one Roman coin was found in a pit, all the rest having been found whilst trenching the surface, which suggests the possibility of most of the pits having been filled up before coins came into general use in the village. One quarter of the village contained relics of superior quality to the other quarters. Here flat pieces of painted plaster showed that they occupied square shaped rooms ornamented in the interior, whilst in other parts of the village the fragments of clay found with the impression of interlaced sticks upon them, showed that they lived in houses made of dab and wattle similar to those which I have elsewhere described as having been found at Mount Caburn, near Lewes, and which were shown to be of the late Celtic period. In the rich quarter also were quantities of iron nails, which denoted that cut timber work was used in the houses, and these nails were deficient in the pits generally. Tiles of Purbeck shale, with nail holes to fasten them by, were also found more frequently in the rich quarter than elsewhere, and terra cotta "tegulae" were also found there, but only in fragments and used as pavements, for which purpose these tiles were frequently employed elsewhere. The absence of "imbrices" which are a necessary adjunct in the formation of a Roman tiled roof confirms the opinion that the roofs in the Romano-British village were not tiled in this way; although the fragments of the tiles showed that they had certainly been originally constructed for roofing; their use for a secondhand purpose conveys the impression of poverty, although too much stress must not be laid upon the circumstance. In forming a comparison between the relics found in the pits and those found just beneath the sur-

face in places where there were no pits, and on the surface over the pits, what Mr. Pengelly has observed is perfectly true, that the surface must have been occupied at the same time as the the earliest pits, and must, therefore, contain some of the relics earliest dropped about in the village. But if we are to believe that the pits were filled up successively as they were abandoned and others dug to replace them, it is evident that those early filled up would no longer continue to be the receptacles for objects in use during the later period of occupation, but would contain only the earliest things, whilst the surface would contain the things of all the periods. There is an object, therefore, in comparing the relative numbers of the better class of things found in the pits and on the surface. This has been done with great care, with the result that a much larger quantity of good things, and things of decidedly Roman construction, have been found on the surface than in the pits, although there is no certain evidence derivable from this source that the village was ever occupied before Roman times. On the other hand things of commoner use were more abundant in the pits. This may be accounted for partly by supposing that the village grew in wealth as it went on, and partly by supposing that the better things were more generally used in the rich quarter where timber built houses existed, and where the pits were scarcer, than in the poorer quarter where pits were more abundant. The value of the evidence bearing upon these points can only be understood by carefully studying the relic tables given in my volume and the deductions that are there made from them. It is always a mistake to expect positive and conclusive evidence from excavations of this nature; at the best, results can only be arrived at by a balance of probabilities and by recording all the finds with the utmost care.

The use of the pits cannot be determined with certainty, but there is reason to suppose that the majority of them were made to contain refuse, and that the habitations were on the surface near them. They resemble the pits found in British settlements of the late Celtic period such as Mount Caburn; so that the interior economy of the British villages must have remained unchanged in Roman times.

By careful measurement of all the animal bones and comparison with test animals, the height and length of which were measured before being killed, it appears that all the domesticated animals were small, except the pig, which was of nearly the same size as our own. The horse did not exceed 11 to 12 hands, and resembled the Exmoor pony in form. The short-horned ox, *Bos longifrons*, was about the size of an Alderney cow; the sheep was small and long-legged, resembling those now found only on

the Island of St. Kilda. The dog was of all sizes, from that of a large mastiff or retriever to a small terrier, and one bone of a Dachshound was also found. Tables of measurement and comparison with the test animals will, I hope, be given in my next volume, on the Excavations in the village of Rotherley, now in course of preparation. Professor Rolleston was paying attention to the subject of ancient domesticated breeds at the time of his death, and I hope to be able to lay the foundation for a careful study of the subject in my next volume. The horse, as well as the ox and sheep, was used for food. It is not certain that the dog was so used, though the number of detached bones of that animal found with the others rather implies that such was the case. On the other hand, one entire skeleton of a dog was found buried with a human skeleton in a grave. Roe deer was used for food in small quantities but not the red deer, although its horns were used for the handles of implements. No horns of fallow deer were found. Oysters were found in large numbers, as is usually the case in all villages of the Roman age. Three thousand and twenty-five of these shells were found in the village, but I omitted to count the number of upper and lower valves, until a large number had been destroyed. Of the one thousand eight hundred and seventy-three that then remained I found that nine hundred and sixteen were tops and nine hundred and fifty-seven bottoms, from which it is evident that they had been imported entire; the upper valves are more liable to destruction than the lower ones. No other mollusks were found, nor were land shells found in sufficient number to allow it to be supposed that snails were eaten. No specimen of *Helix pomatia* was discovered. Although it was evidently an outlying agricultural village, the people were not without refinement as attested by a number of bronze finger rings of Roman manufacture, set with glass and adapted to fingers of small size. The numerous bronze fibulae found were all of Roman type, and two mosaic brooches of blue, red, and white pattern, were of the finest workmanship. As a rule, the pottery was of rude manufacture, but with flat bottoms adapted to stand on tables. Some of the vessels had handles, but many of them were provided with loops for suspension, somewhat similar to those still used by Dorsetshire labourers in the fields, a form that is not uncommon amongst Roman remains in this neighbourhood. It appeared to be wheel-turned, but subsequently smoothed over with striæ running in different directions so as to obliterate the marks of the wheel. One perfect Samian bowl with figures in relief was found in fragments and restored. Scarcely any fragments of the coarse British pottery, having large grains of quartz or shell in its composition, were found during the excavations.

One of the most remarkable characteristics of the village was the extensive arrangements that had been made for drainage. Ditches 3 to 4 feet deep surrounded the village, and from these other deep drains led down hill and along the sides of the roads, leading to and from the village, implying probably a much greater rainfall than is experienced at the present time. The drains consisted of open ditches, no trace of conduits or faggots having been found in them.

The same conclusion as to the rainfall is borne out by the depth of the wells, two of which were found in the village, one 136 and the other 188 feet deep. At the bottom of the deeper one, the iron bands and handle of the Roman bucket were found, shewing that it had been used to obtain water, although it is now quite dry, and a diagram given in my volume showing the depths of the existing wells on the hill in comparison with the Roman ones, brings to light the fact that water was obtained in Roman times at a higher level than is the case at present. No doubt the destruction of the ancient forests and the drainage of the land has brought about this change, and the description of Britain by Pytheas as a "land of clouds and rain," must have well applied to the condition of the country at the time we are speaking of. Associated with the climate also must be considered several hypocausts found in the village. The use of some of them is doubtful, but one appears clearly to resemble a British copy of a Roman flue used for warming a room, made with flags of Purbeck shale instead of tiles, and shewing that the owner of the house must have become thoroughly imbued with Roman ideas of comfort. In one of these hypocausts a skeleton was found, which had been interred at the time it was filled up with earth. In one of the pits, the skeleton of a child about 12 years of age was found to have been killed by a sword cut on the back of the head, and it was thrown into the pit with two adults. Twenty-two skeletons of infants were also discovered in various parts of the excavations, the majority of which were *new-born*, reminding us of the Roman custom of burying young children under the eaves of the house. By measuring several samples of ancient wheat found in the pits, it was found that the number of grains to the cubic inch, was the same as in wheat now grown at the same level. This differs from British and pre-Roman grain, which I found higher up on the hill, which shewed nearly twice as many grains to the cubic inch as wheat now grown near the same spot from which it appears that the influence of Roman methods of husbandry had told upon the quality of the grain produced at the time of the occupation of this village.

On the feet of two of the skeletons iron hobnails, Roman

fashion, were found, and on a third a quantity of similar nails covered the shin bones, some of which were corroded together at the heads, showing that probably they had served to arm leather greaves, with which the lower part of the legs had been covered.

This being the condition of the remains, and the probability of the inhabitants of the village being Britons of the Roman era being well attested, it is interesting to consider the physical peculiarities of the skeletons found thrown into the pits or otherwise buried within the village. All the skulls that could be restored have been carefully drawn in my volume, and the measurements of the skulls and of the bones of the skeletons are attached to the plates. The first thing that strikes one is their exceedingly small stature, $3\frac{1}{2}$ inches lower than the estimated stature of small long-barrow people of this district, and this is the more remarkable because the only two bronze age skeletons that I have found in this neighbourhood are of the usual large stature of the bronze age folk. And the Saxons also which I found in the neighbouring cemetery at Winkelbury were of the usual comparatively large size of that people. Of fifteen skeletons found in the village of Woodcuts, the stature of thirteen could be estimated by the long bones, viz., seven males, average stature 5 feet 4.0 inches, and six females average stature, 4 feet 11.8 inches. The average stature of the males is increased by one skeleton, which, in the opinion of both Dr. Beddoe and Dr. Garson, who have examined them, has marked characteristics of Roman origin, and which is 3 inches taller than the tallest of the rest. He was also found in an extended position, and had a remarkably brachycephalic skull, the only one found in this village. If this skeleton were omitted it would reduce the average stature of the males by 0.7 inches, making it 5 feet 3.3 inches instead of 5 feet 4.0 inches, and the height of the tallest man 5 feet 4.8 inches instead of 5 feet 7.8 inches. It is all the more probable that this skeleton was exceptional in height from the fact that in the neighbouring Romano-British village of Rotherley, the description of which is now in course of preparation in a second 4to volume, the average height of eleven males has been found to be only 5 feet 1.3 inch and that of three females 4 feet 10.0 inches, proving the existence of a very short race inhabiting these villages at that time.

Including together the skeletons in the Woodcuts and Rotherley villages with the skeleton above mentioned, supposed to have Roman characteristics, and adding one other skeleton of the Roman-British period found in a pit in the neighbourhood, all being assumed on sufficient evidence to be Romano-Britons, the following is the result:—Males, eighteen, average stature, 5 feet 2.6 inches; females, ten, average stature, 4 feet 10.9 inches.

To what cause is this small stature to be attributed? To inheritance of the peculiarities of their long-barrow ancestors? If so, why should their stature have been still further reduced below the average of that people? To the drafting of the stronger portion of the males into the Roman legions abroad? Perhaps the comparatively large size of the females to which Mr. Galton has alluded may be taken to favour that view, or to the results of bad living and exposure, and to evils attendant upon slavery? Possibly the small size of all the other animals may be thought to have some bearing on the general effects of poverty; whilst on the other hand the large size of the grains of wheat, to which I have referred, above what was found to prevail in pre-Roman times, may be taken as evidence of the existence of an advanced state of agriculture in the small square fields which are to be traced in the neighbourhood of the villages.

In estimating the stature from all the long bones, Dr. Topinard's method, as given in his "*Anthropologie Générale*," has been strictly adhered to. I found that the difference of stature caused by the different methods of estimating the same skeleton by English physical anthropologists including Beddoe, Flower, Humphry, and Rolleston amounted to no less than 4 inches, a difference exceeding the average difference of stature of many European races, and therefore sufficient to invalidate any comparison that might be made from them.¹ Without prejudice therefore to any of the systems advocated by those gentlemen, I have conformed to Dr. Topinard's rules for the sake of uniformity, and in this I am supported by Dr. Garson. But I would draw the attention of anthropologists to this important point. Questions of stature enter so largely into all racial speculations that a uniform system of estimating stature from the long bones is a matter of the most urgent necessity. The uniformity obtained by estimating from the different bones of the same skeleton appears to me to afford evidence, that the calculation is a reliable one if only the proper formula is used, and Dr. Topinard's method, even if it should not turn out to be quite the best, appears to me sufficiently reliable to serve as a generally accepted standard.

In estimating the cephalic index I have also used Dr. Topinard's rules. The glabello-occipital length has been made the chief basis of calculation, although the ophryo-occipital length has in all cases been given as well. The result for the Woodcuts skulls shows: one brachycephalic skull, that of the possible Roman above referred to, whose index is 822; seven mesati-cephalic, ranging from 750 to 799, and five dolichocephalic, rang-

¹ Prof. Flower's method accords very closely with Dr. Topinard's.

ing from 714 to 746. The prevalence of long skulls in the village is therefore very apparent, and this tallies with the subsequent excavations in Rotherley village, where, out of thirteen skulls measured, one only was brachycephalic, with an index of 826; three were mesaticephalic, ranging from 756 to 799, including one, which, if the ophryo-occipital length had been taken, would have been included amongst the brachycephalic; six were dolichocephalic ranging from 702 to 743, and three were hyperdolichocephalic ranging from 689 to 696.

Including together the skeletons in the Woodcuts and Rotherley villages, all of which were Romano-Britons, the following is the result:—Brachycephalic, two; mesaticephalic, ten; dolichocephalic, eleven; hyperdolichocephalic, three.

In my address to the Archæological Institute at Salisbury ("Journ. Arch. Inst.," xliv, page 271), I have referred to the peculiarities of this district as an ancient ethnical frontier, and to the existence of a small dark race of people amongst the peasantry at the present time.

The practice of burying in the villages, which has been brought to light by my examination of two of them, affords good opportunities of studying the peculiarities of race in Roman times, and the number of these villages as yet unexplored appears to promise a rich harvest for future anthropological research.

DISCUSSION.

The PRESIDENT drew attention to the curious uniformity in the calculated statures of the 18 males and 10 females, as shown in the suspended diagram,¹ where they were severally represented by vertical lines, marshalled in the order of their lengths. There was only a difference of 3 inches between the stature whose class place was one-quarter of the length of that class, reckoned from its lower end, and the stature whose class place was three-quarters of the length of the class, reckoned also from its lower end. In other words, there was a difference of only 3 inches between the lower and upper quartiles of the class, which is the same thing as twice the "probable error" of the series of recorded statures. He had shown that the difference between the quartiles in any class of English men of the present day, who belonged to the same broad social rank, was 3·4 inches; similarly as regards English women. If modern men and women were mixed together in the above proportions of 18 to 10, the difference between the quartiles of the mixed series would be much increased; it would

¹ A diagram was exhibited in which the statures of 28 individuals (18 male and 10 female) were given as inferred from the measurement of the long bones of the lower limbs.

amount to between $4\frac{1}{4}$ and $4\frac{1}{2}$ inches.¹ But the difference between the variability in stature of these ancient races and the modern ones must be greater than is indicated by the above figures of 3 inches for the one and $4\frac{1}{2}$ for the other, because the statures from which the figure 3 is derived had not been obtained by direct measurement. They were inferred from the length of the leg bones, and were therefore "fallible" estimates of the real statures. It would be easy to subtract the effect of this superadded variation, if we knew the "probable error" of this fallible estimate, but it has never yet been determined. It may be that the ancient Britons were more uniform in stature than our modern and greatly mixed races, and again that the statures of the two sexes may have been less different. It may also be that the individuals in the same encampment were closely inter-related and had a family likeness. The facts to be accounted for cannot, however, be strictly ascertained until osteologists shall have determined the "probable error" just alluded to, which would be a matter of little difficulty. It would be advisable to calculate its value in respect to the height of the living man as inferred from the measurement after death, of his femur alone, of his tibia alone, and of the mean of the lengths of his tibia and femur. It would then be easy to calculate the variability of a race from that of the lengths of one or more of the leg bones of many skeletons. This, he need hardly add, is quite another question from that of average stature.

Mr. W. PENGELLY remarked that, with the Chairman's permission, he would make a few observations on one or two of the topics which had been so ably placed before the meeting by General Pitt-Rivers.

Oyster shells had been mentioned as occurring among the finds met with by the author, and had thus suggested the question, "Were any other shells found?" In the most recent deposit in Kent's Cavern, shells of oysters were abundant, but so also were those of cockles, limpets, and periwinkles, and there were a few examples of *Pecten*, and of the internal shell of the cuttle-fish (*Sepia officinalis*).

Shells, however, were found, but less abundantly, in some of the older deposits; thus cockle shells occurred in the granular stalagmitic floor, and in a branch of the cavern, known as the "Wolf's

¹ I calculated this value from the data in my table of "Anthropometric Per-centiles," published in the "Journ. Anthropol. Inst.," Vol. XIV, p. 277, and upon the supposition that the proportion between the two sexes was as 20 males to 10 females. In this case the table gives most of the data by inspection, and the rest by interpolation, as follows. The most probable heights for 10 females, taken at hazard, are those of each successive tenth per-centile; these are printed in my table. Those for 20 males are the values of each successive fifth per-centile. In the table, the 5th and the 95th are given, leaving the 15th, 25th-85th to be found by interpolation. When this is done, and the 20 males and 10 females values are mixed together and then marshalled, it will be found that the value of the 25th per-centile, or lower quartile, is 64.5 inches; and that of the 75th per-centile, or upper quartile, is 68.8 inches. The difference between these is 4.3 inches.—F.G.

Cave," twenty-five shells of the common pecten were found in a cupboard-like recess, between two large masses of limestone, in the still older cave earth. In one instance two, and in another five, of them were found neatly fitted one into another and cemented together with stalagmite. There could be no doubt that a human being had not only packed them, but placed them where they were found. The fact that at least some of them were "dead shells" proved that they were taken to the cavern, certainly in some cases, not because they contained an article of food, but because they were useful as utensils. One or two of them contained traces of charred wood. It would be interesting to know whether General Pitt-Rivers met with any "dead shells" among his finds.

Though the articles found on the existing surface of the immediately adjacent ground were, as the author suggests, probably older than those at the bottom of the pits, it should be borne in mind that breaking the surface was necessarily the earliest work of the excavators; so that it is neither impossible nor improbable that at this first stage a tool might occasionally be lost, or broken and cast aside, and thus one would not be surprised to find on the surface as it now exists, tools older, and tools more modern, than those found at the bottom of the pits.

Mr. A. L. LEWIS having commented upon the exhaustive manner in which General Pitt-Rivers had conducted his investigations, and the beautiful models which showed the results obtained in a manner which would be at once the example and the despair of all future explorers, asked for further information as to the time and manner of the filling up of the pits. He thought the General's statement as to the extent of difference in height brought out by different methods of measurement of bones must lead to uneasy reflections as to the value of some former statistics, and theories based upon those statistics, concerning the early inhabitants of this country. He agreed with Dr. Beddoe that some of the short people in this country (whatever might be the case elsewhere) owed very much of their low stature to an abnormal shortness of the thigh, and that the thigh was an extremely unsafe index of height. It appeared from General Pitt-Rivers' models that some perfect skeletons had been found on his estate: would it not be possible to put some of these skeletons together with leather or india-rubber washers to represent the cartilages, and to measure their actual length? If this were done, and the result compared with that obtained from calculation of the measurement of the thigh-bone, this very important question might perhaps be settled.

The following paper was read by the author:—

On the STATURE of the OLDER RACES of ENGLAND, as estimated from the LONG BONES.

By JOHN BEDDOE, M.D., F.R.S.

HAVING, through the kindness of General Pitt-Rivers, had the advantage of examining the human remains from a Romano-British village on his property, I was surprised to find how low was the stature of the inhabitants, as calculated from the data of Professor Humphry.

This led me to pay more attention to the subject of the restitution of stature from the long bones, especially the femur, than I had previously done. One result has been that I have satisfied myself that these very valuable data have been made use of without the corrections necessary for this particular purpose, and that, even in the hands of so good an observer as Rolleston, they have yielded erroneous results.

In the first place, these measurements were made by Professor Humphry on the skeleton; and the standard referred to was the height or length of the skeleton, not of the living body. Topinard¹ says that 35 millimètres (1·4 inch) should be allowed on this account, others have made even higher estimates: I have adhered throughout this paper to that of Topinard.

Moreover, common observation teaches us that short men have, as a rule, shorter legs in proportion than tall men; and it would seem that this applies to both femur and tibia. Hence the indiscriminate application of Humphry's proportions must, in a series sufficiently large to swamp the exceptions, bring out an unduly low stature for short men, and an unduly high one for tall men, thus exaggerating the actual differences.

On this, as on so many other subjects, Topinard is our principal authority; but Orfila, whose observations are rectified and summarised by Topinard in his "*Anthropologie Générale*," had already accomplished some important work upon it, though his object was purely medico-legal. Orfila measured the long bones of persons whose living stature had been ascertained.

I have constructed a table including 75 skeletons of Topinard's, and 42 of Orfila's, together with a few European skeletons of Pruner Bey's, two of Williamson's from Fort Pitt, and those of the two giants in the Museum of the Royal College of Surgeons, for the measurements of which I am indebted to Dr. Garson. The value of the table is diminished by the fact that we do not know exactly how Orfila and Williamson took their measurements—what they took for their extreme points. Topinard puts

¹ "*Anthropologie Générale*," page 474.

the difference between his "maximum length" of the femur, and that which he calls the "oblique maximum," or "maximum in position" (*i.e.*, that gotten by the apposition of both condyles against one of two parallel planes, and of the head against the other) at 4 millimètres, which would make a difference of about 15 millimètres, or three-fifths of an inch, in the whole stature. Now this, I am disposed from internal evidence to believe, was the method adopted by both Orfila and Williamson.

Topinard's figures indicate a considerable increase in the proportion borne by the femur to the skeleton, as one proceeds from the low to the middle statures (1,685 millimètres, about 5 feet 6·3 inches), but no difference between the middle and the tall. Orfila's even indicate a moderate decrease after 5 feet 7½ inches, but the significance of this anomaly is diminished by the recurrence of higher proportions for the femur among the giants. Even here, however, there is no uniformity; but it seems likely that in giants the tibia is more often excessively long than the femur. I have endeavoured to get some further light on this part of the subject from Quetelet's careful measurements of the living subject. He examined fourteen female models, of whom ten were Belgians, two Romans, one a Parisian, and one a Spaniard. Of these three might be rated as moderately tall women, averaging 1,611 millimètres or 63·4 inches, which may be the equivalent of 68 inches in European males; eight as of middle stature, between 60 and 63 inches; and three as short, averaging 1,507 millimètres or 59·3 inches. Now the proportion borne to the total stature by the distance from the top of the trochanter to the ground, was in the tall women 52·6, in those of medium height 51·4, and in the short ones only 49·1. We have here a regular increase, correlative with the height, in the proportions of the lower extremity. On the other hand, the general result of Quetelet's observations on the proportions of men, including Belgians, Ojibbeway Indians, and Kaffirs, shews no increase of relative length of the femur or of the lower extremity in men of 6 feet high over those of 5 feet 9 inches, or even less.

To sum up, it would seem that, as we ascend the scale of stature, the relative length of the femur and of the whole lower extremity continues to increase until we reach the middle height or something more, but that beyond that point such increase is small or doubtful, especially in the femur, any augmentation being more apt to come out in the tibia.

It may be long before Topinard can carry out his intention of collecting a sufficient number of specimens at every stage. Meanwhile, I will endeavour to lay down a rule for reconstituting stature, imperfect indeed, but better than any now in use.

I have already said that the method based on Humphry errs

in two respects. The first is its omission to take into account the soft parts, the integument of the skull, and the cushion of the heel: this omission can easily be rectified by adding, with Topinard, 1·4 inch, or 35 millimètres. The second, its application of the same proportions to tall, to medium, and to short men, it is less easy to rectify.

The necessity of such rectification may be shewn by quoting some of Rolleston's measurements from his and Greenwell's important joint work.

The young woman from Flixton Wold is spoken of as having had a stature of 61 inches (1,550 mm.). Her femur measured 16·8 inches (426 mm.), and her tibia, not including, apparently, the malleolus, 13·4 inches (340 mm.). These data, whether we follow Orfila or Topinard, indicate a probable stature of quite 62½ inches, if not more. Thurnam would have computed it at from 61·5 to 63·2. A woman from Sherburn Wold, of dolichocephalic type, is put by Rolleston at 56 inches, her femur having evidently measured 15·4 inches (about 390 mm.). Allowing for the "maximum oblique" measurement, for the soft parts, and for the woman having certainly been of short figure, she may probably have had a stature of 58·7 inches. Again, Rolleston speaks of a femur found at Upper Swell as probably male, but giving a stature of only 59 inches (1,500 mm.) to its owner. This estimate must have been derived by him from a length of 16·2 inches, from which Topinard would have inferred, probably, a height of 61·6 inches, Orfila one of 62·2 at least, and Thurnam one of 60·8. My rule would give in this case 61·6 inches (1,564 mm.).

Thurnam in his earlier days used a very erroneous way of computing, but subsequently struck out a new plan, which yields very close approximations in the case of statures either a little above or a little below the middle. This is the striking off an inch from the length of the femur, together with half of any excess there may be over 18 inches, and then multiplying by four. It fails by deficiency in very low and in gigantic figures, and is slightly in excess at about 18 inches. Another very fair rule of his was the addition of one inch to twice the combined length of the femur and tibia. This gives an insufficient result with low statures, but is otherwise fairly correct.

When the tibia alone is available, its length, including the malleolus, may be multiplied by 4·5; the result will generally be a little too small, except in giants. The maximum length of the humerus may be multiplied by five and 1·4 inch added, but here as well as in the tibia, the uncertainty of modes of measurement comes in.

The easiest way to apply Humphry's table is to multiply the

length of the femur by four, subtract one-eleventh of the product, and add 1·4 inch, or 35 millimètres. The result is very deficient in the low statures, but in the higher ones very fair, or slightly in excess.¹

The plan I venture to propose, however, is founded on the femur alone. I take away from the length of the femur one-quarter of the excess over 13 inches up to 19, and thereafter only one-eighth; and then multiply by four.

Thus let F = length of femur in inches, and x the living stature; then—

$$\begin{aligned} x &= 4 \left(F - \frac{1}{8} (F - 13) - \frac{1}{8} (F - 13 - [F - 19]) \right) \\ &= 3 F + F - \frac{1}{2} (F - 13) - \frac{1}{2} (F - 13 - [F - 19]) \\ &= 3 F + 13 + \frac{1}{2} (F - 19) \end{aligned}$$

Thus, more simply, add to thrice the length of the femur in inches 13 inches, and one-half of any excess over 19 inches. In women, for 13 and 19 read 12·5 and 17·5.

Or, on the metric system, add to thrice the length of the femur 33 centimètres, together with one-half of the excess over 48 centimètres. In women read 32 and 44 or 44·5. The reason for making these allowances in the case of women is as follows: Though the average proportion borne by the lower extremities to the stature is, if anything, rather smaller in women than in men, yet as the middle stature in the former corresponds to a low stature in the latter, it seems probable that the height about which women pass from dwarfish to average proportions of trunk and limbs must be somewhat lower than in the case of men.

Several interesting points appear to arise from the second table. In the first place, it indicates that the neolithic or long-barrow race, if we may judge from what remains we possess, were not quite so small as Rolleston thought them, nor so very inferior in stature to the bronze race as Thurnam made them out to be. The figures on which the latter finally rested were 65·4 inches (1,661 mm.) and 68·4 inches (1,737 mm.); shewing a difference between the two races of exactly 3 inches.

I confess that my rule fails here (in the long-barrow men) to the extent of bringing out an error of excess of perhaps two or even three-tenths of an inch (5 to 8 mm.). Topinard's average from femora of 18 inches is only 66·3 inches, but the evidence of Orfila and of Humphry is strong just here, and even if we allow that Orfila used the maximum oblique way of measurement, we can hardly put the stature of these long-barrow men lower than 66·7 inches (or 1,694 mm.). The average difference between a

¹ The results of this procedure appear in my table under column 6, styled "Humphry, corrected for soft parts."

stone man and a bronze man will therefore stand at 2·7 inches (68 mm.). No wonder that Thurnam discarded his own method of computation for one based on Humphry. The former gave him a difference of only 1·6 inch (40 mm.) between the two races, the latter one of 3 (76 mm.), thus emphasising Thurnam's great discovery of the racial difference between British stone men and bronze men.

The supposed great inferiority in stature of the neolithic women, dwelt upon by Rolleston, is scarcely borne out by my computation—61·5 inches is not a very low stature. But more data are wanting.

My Romano-British examples are mostly taken from one locality, White Horse Hill, and are of course less valuable than if they had been derived from several sources. Both men and women, especially the latter, are smaller than those of the earlier populations. I look forward with interest to the light which General Pitt-Rivers's discoveries at Rushmore may throw upon this part of the subject.

Of the Anglo-Saxons included in my tables a few appear in more than one of the component lists; the actual number of individuals being about 50 men and 25 women. They are taken from several districts or settlements in the south and south-east of England, and are probably sufficient in number to enable us to approach a true estimate of the average stature of the Saxon population in that region. As the restitution of the average stature was seldom, apparently, a leading motive with those who superintended their exhumation, there is a chance that in some instances selection may have been exercised, the longest femora having been measured, and the shorter ones neglected. This may have been the case at Harnham, but at Long Wittenham and Brighthampton it is pretty clear that Mr. Akerman measured all the femora he could find in measurable condition; and we have probably a fair sample of the Saxon peasantry. The few men buried with swords, whether eorlcundmen or tithingmen, are somewhat taller than the average, as might perhaps have been expected.

Reports of the length of unarticulated skeletons I have passed by as quite untrustworthy. Thus a South Saxon skeleton from Firls was described to Barnard Davis as 6 feet 4 inches in length, its femur being, according to Davis himself, only 19 inches; while a skeleton at Brighthampton, with a femur of the same length and a tibia of 16 inches, is recorded as measuring 6 feet 7 inches. These errors were not committed by anatomists, and are beyond any that could possibly arise from different ways of measuring the bones.

The measurements of the Saxon nobles from Ely are of

special interest, apart from the clear identification of their owners, from the fact that Mr. Bentham has given us the means of checking our conclusions in the lengths of the tibia, humerus, ulna, and clavicle. It would seem that either Bentham used Topinard's oblique maximum, thus understating the length of the femora by perhaps one per cent., or that the tibia, in the bishops especially, were unusually long. I am a little inclined to think this last is an Anglo-Saxon peculiarity. From internal evidence one can say that Bentham was very careful in his procedure. My final result is that the hero of Maldon fight must have been at least as tall as my rule makes him, over 6 feet 3 inches, and that the bishops were a little taller than it allows, probably quite 69 inches, or 1,750 millimètres.¹

¹ I have not made use of Rolleston's measurements of the Frilford skeletons. They would have been very valuable for my purpose, had their racial attribution been easier: but in many cases it was by no means free from doubt, as Rolleston acknowledged. Frilford seems to have been inhabited, in the later Roman period, by tall men and short women. I am inclined to suspect that some of the tall men assigned by Rolleston to the Hohberg type may have been Roman soldiers of Germanic blood.

TABLE I.
MATERIALS FOR THE RECONSTITUTION OF STATURE FROM LONG BOXES OF THE LOWER EXTREMITY.

1	2	3	4	5	6	7	8	9	10	11
Authority.	No.	F (Length of Femur average.)	Living Stature.	Humphry.	Do. corrected for soft parts.	Thurnam.	Beddoe.	(F + T) × 2.	Excess of 4 F over living stature.	Deficit of col. 9
Orfila ...	2	13.83	58.4	50.2	51.6	51.2	54.4	50.4	-2.2	-8
Williamson ...	1	15.25	59.6	55.5	56.9	57	58.75	56	+1.4	3.6
Orfila ...	3	15.75	61.2	57.3	58.7	59	60.25	58.26	1.8	2.9
Topinard ...	21	16.7	62.8	60.7	62.1	62.8	63.1	60.08	4	2.7
Orfila ...	4	17.1	64.4	62.3	63.7	64.4	64.3	62.6	4	1.8
Orfila ...	6	17.3	65.5	62.9	64.3	65.2	64.9	63	3.7	2.5
Pruner Rey ...	?	17.6	66 ?	64	65.4	66.4	65.8	64	4.4	2
Orfila ...	8	17.7	66.3	64.4	65.8	66.8	66.1	64.56	4.5	1.7
Humphry ...	25	17.88	66.4	65	66.4	67.5	66.6	64.5	5.1	1.9
Topinard ...	29	18	66.3	65.5	66.9	68	67	65	5.7	1.3
Orfila ...	8	18.1	67.5	65.8	67.2	68.2	67.35	65.34	4.9	2.1
Orfila ...	2	18.3	68.7	66.5	67.9	68.6	67.9	66.5	4.5	2.2
Williamson ...	1	18.5	69.15	67.3	68.7	69	68.5	66	4.8	3.1
Orfila ...	5	18.5	70.1	67.3	68.7	69	68.5	67.5	3.9	2.6
Topinard ...	22	19.3	71	70.2	71.6	70.6	71.05	69.8	6.2	1.2
Orfila ...	4	18.8	72.5	68.4	69.8	69.6	69.4	68.1	2.7	4.4
Williamson ...	1	19	74.5	69.1	70.5	70	70	70	1.5	4.5
Freeman (Garson) ...	1	22.6	81.3	81.8	83.2	77	82.25	82.6	8.7	+1.3
O'Brien (Garson) ...	1	24.9	92.3	90.4	91.8	81.8	90.6	92.2	7.3	- .1
Spaniard (Topinard) ...	1	25.7	93.1	93.5	94.9	83.4	93.4	95.2	9.7	+2.1
Two great giants (T) ...	2	26.2	101.4 ?	95.3	96.7	84.4	95.2	93.2	3.4	-2.2

TABLE II.

STATURE OF THE OLDER RACES.

Race, &c.	Locality and Author.	Femur, inches, average.	Tibia, inches, average.	Stature, inches.	Stature, mm.	Stature, (f+t) × 2 + 1
25 Neolithic ... m	Thurnam...	18	...	67	1702	
5 ... w	Davis, Thurnam, and Rolleston	16·35	...	61·55	1563	
17 Brachyc. fr. (round barrows) m	Davis and Thurnam ...	18·66	...	69	1752	
27 Round barrow m	Thurnam ...	18·8	...	69·4	1762	
2 do. w	Davis, Thurnam, and Rolleston	17·68	...	65·54	1665	
10 Romano-British m	Davis and Thurnam ...	17·88	...	66·64	1693	
4 do. ... w	do. ...	16·07	...	60·7	1542	
13 Anglo-Saxon ... m	do. ...	18·76	...	69·28	1760	
3 do. ... w	do. ...	16·66	...	62·2	1579	
23 Anglo-Saxon m	Long Wittenham (Aker-man)	18·38	...	68·14	1730	
17 do. w	do. do.	16·63	...	62·4	1584	
7 do. with tibiæ m	do. do.	19·03	15·9	70·1	1780	70·86
3 do. sword-bearers m	Long Wittenham and Brighthampton, do.	18·75	...	69·25	1753	
6 do. do. m	Brighthampton, do. ...	18·16	...	67·5	1714	
2 do. do. w	do. do.	16·75	...	62·75	1593	
4 do. do. m	Harnham, Wilts, do. ...	19·37	...	71·1	1805	
4 do. do. w	do. do.	18	...	67	1702	
3 Anglo-Saxon ... m	Ozingell, Kent (B. Davis)	19·1	...	70·15	1782	
Earl Brithnoth ...	Ely (Bentham) ...	20·5	16·75	75·25	1911	75·5
5 Anglo-Saxon Bishops	do. do. ...	18·4	15·54	68·2	1732	68·88
Anglo-Saxon general average ... m	18·57	...	68·4	1747	
Do. do. w	16·84	...	63·07	1602	

NOVEMBER 8TH, 1887.

Prof. A. H. KEANE, B.A., *Vice-President, in the Chair.*

The Minutes of the last meeting were read and signed.

The election of the following new members was announced :—

JAMES KINGSTON BARTON, Esq., of 2, Courtfield Road, Gloucester Road, S.W.; EDWARD BELLAMY, Esq., F.R.C.S., of 17, Wimpole Street, W.; GEORGE JAMES HENDERSON, Esq., of Caterthum, North Dulwich, S.E.; and BERNARD HOLLANDER, Esq., of 52, Welbeck Street, Cavendish Square, W.

The following presents were announced, and thanks voted to the respective donors :—

FOR THE LIBRARY.

- From FRANCIS GALTON, Esq., F.R.S.—*Monismo o Nichilismo*. 2 Vols. By F. Maltese.
- From Prof. R. VIRCHOW.—*Das Todtenfeld von Ancon in Peru*. Ein Beitrag zur Kenntniss der Kultur und Industrie des Inca-Reiches nach den ergebnissen eigener Ausgrabungen. Von W. Reiss und A. Stübel.
- From E. W. BRABROOK, Esq.—*Perioden im Gewicht der Kinder und in der Sonnenwärme, Beobachtungen von R. Malling-Hansen*.
- From the AUTHOR.—*Excavations in Cranborne Chase, near Rushmore, on the borders of Dorset and Wilts*. By Lieutenant-General Pitt-Rivers, D.C.L., F.R.S., &c.
- *China in America: a Study in the Social Life of the Chinese in the Eastern Cities of the United States*. By Stewart Culin.
- *The Babylonian Chronicle*. By Theo. G. Pinches, M.R.A.S.
- *The Solomon Islands*. By Baron A. von Hügel.
- *Le Rôle de la Science dans l'Acclimatation*. Par M. Dareste.
- *Przyczynek do Etnografii ludu ruskiego na Wolyniu*. By Prof. Dr. I. Kopernicki.
- *De praehistorische steenen wapenen en werktuigen uit den Oost-Indischen Archipel, beschouwd uit een archeologisch en ethnographisch oogpunt*. Door C. M. Pleyte Wzn.
- *Translation of the "Ko-ji-ki," or "Records of Ancient Matters."* By Basil Hall Chamberlain.
- *The Language, Mythology, and Geographical Nomenclature of Japan, viewed in the light of Aino Studies*. By Basil Hall Chamberlain.
- From the AUTHORS.—*La Race Humaine de Néanderthal ou de Canstadt en Belgique*. Par Julien Fraipont et Max Lohest.
- *Notes sur l'Ethnographie de la partie orientale de l'Afrique*

- Équatoriale. Par le Docteur Victor Jacques et le Capitaine É. Storms.
- From the AUTHORS.—Le Cimetière de Saaftingen. Par Louis de Pauw et le Docteur Victor Jacques.
- Crani Peruviani Antichi del Museo Antropologico nella Università di Roma. Studio di G. Sergi e L. Moschen.
- From the STATE BOARD OF HEALTH, MASSACHUSETTS.—Forty-fifth Report to the Legislature of Massachusetts relating to the Registry and Return of Births, Marriages, and Deaths in the Commonwealth, for the year ending December 31, 1886.
- Eighteenth Annual Report.
- From the DEUTSCHE GESELLSCHAFT FÜR ANTHROPOLOGIE, ETHNOLOGIE, UND URGESCHICHTE.—Archiv für Anthropologie. Band xvii. Parts 1, 2.
- Correspondenz-Blatt. 1887. Nos. 6-8.
- From the BERLIN GESELLSCHAFT FÜR ANTHROPOLOGIE, ETHNOLOGIE, UND URGESCHICHTE.—Zeitschrift für Ethnologie. 1887. Heft. 3, 4.
- From the SOCIETÀ ITALIANA DI ANTROPOLOGIA, ETNOLOGIA, E PSICOLOGIA COMPARATA.—Archivio per l'Antropologia. Vol. xvii. Fas. 1, 2.
- From the UNITED STATES GEOLOGICAL SURVEY.—Sixth Annual Report. 1884-85.
- Bulletin. Nos. 34-39.
- From the UNITED STATES BUREAU OF ETHNOLOGY.—Fourth Annual Report. 1882-83.
- Work in Mound Exploration of the Bureau of Ethnology. By Cyrus Thomas.
- From the SMITHSONIAN INSTITUTE.—Report. 1885. Part 1.
- Smithsonian Miscellaneous Collections. Vols xxviii-xxx.
- From the TRUSTEES OF THE PEABODY MUSEUM.—Twentieth Annual Report. Vol. iii. No. 7.
- Conventionalism in Ancient American Art. By. F. W. Putnam.
- From the ROYAL ARCHÆOLOGICAL INSTITUTE.—The Archæological Journal. No. 174.
- From the ROYAL SCOTTISH GEOGRAPHICAL SOCIETY.—The Scottish Geographical Magazine. Vol. iii. Nos. 7-11.
- From the ESSEX FIELD CLUB.—The Essex Naturalist. 1887. Nos. 5-9.
- From the SOCIÉTÉ ARCHÉOLOGIQUE, AGRAM.—Viestnik hrvatskoga Arkeologičkoga Društva. Godina ix. Br. 2-4.
- From the ACADÉMIE ROYALE DES SCIENCES DE BELGIQUE.—Mémoires des Membres. Tom. xlv.
- Mémoires couronnés et des savants étrangers. Tom. xlvii, xlviii.
- Mémoires couronnés et autres mémoires. Tom. xxxvii, xxxviii, xxxix.
- Bulletins de l'Académie 3^e serie. Tom. ix-xiii.
- Annales de 1886 et 1887.
- Catalogue. 1^e et 2^e parties.

From the K. K. AKADEMIE DER WISSENSCHAFTEN, WIEN.—Sitzungsberichte philos.-histor. Classe, Band cxii, Heft 1, 2; Band cxiii, Heft 1, 2; Band cxiv, Heft 1: math.-naturw. Classe, I Abthlg., 1886, Nos. 4-10; II Abthlg., 1886, Nos. 3-10; 1887, Nos. 1, 2. III Abthlg., 1886, Nos. 1-10.

From the MAGYAR TUDOMÁNYOS AKADÉMIA.—Almanach 1887.

— Nyelvtudományi Értekezések, xiii, 3, 4 and 6-12.

— Nyelvtudományi Közlemények, xx, 1, 2.

— Munkácsi Bernát. Votják népköltészeti hagyományok.

— Történettudományi Értekezések, xiii, 2, 4, 5.

— Társadalmi Értekezések, viii, 7-10; ix, 1.

— Dr. Wlassics Gyula. A bűnkísérlet és bevégzett bűncselekmény, II.

— Ungarische Revue. 1887. Nr. 1-7.

— Naturwissenschaftliche Berichte. iv.

— Ethnologische Mittheilungen aus Ungarn. 1887, Heft 1.

From the BATAVIAASCH GENOOTSCHAP VAN KUNSTEN EN WETENSCHAPPEN.—Tijdschrift voor indische taal-, land- en volkenkunde. Deel xxxi, Afl. 5, 6; Deel xxxii, Afl. 1.

— Notulen van de algemeene en bestuurs-vergaderingen. Deel xxv, Afl. 1, 2.

— Dagh-Register gehonden int Casteel Batavia vant passerende daer ter plaetse als over geheel Nederlandts-India Anno 1640-1641. Van Mr. J. A. van der Chijs.

From the ACADEMY.—Proceedings of the American Academy of Arts and Sciences. New Series Vol. xii.

— Boletín de la Academia Nacional de Ciencias en Córdoba. Tom. ix, Ent. 3, 4.

From the ASSOCIATION.—Journal of the East India Association. Vol. xix, Nos. 5-7.

— Journal of the Royal Historical and Archæological Association of Ireland. Nos. 70-72.

— Report and Transactions of the Devonshire Association. Vol. xix, and Extra Volume. The Devonshire Domesday, Part iv.

— Proceedings of the American Association for the Advancement of Science, Vols. xxxiv, xxxv.

From the INSTITUTE.—Proceedings of the Royal Colonial Institute. Vol. xviii.

— Transactions and Proceedings of the New Zealand Institute, 1886. Vol. xix.

From the INSTITUTION.—Journal of the Royal United Service Institution. No. 140.

From the SOCIETY.—Proceedings of the Royal Society. Nos. 256-258.

— Proceedings and Transactions of the Royal Society of Canada for the year 1886. Vol. iv.

— Transactions and Proceedings of the Royal Society of Victoria. Vols. xxii, xxiii.

— Proceedings of the Royal Geographical Society. Vol. ix, Nos. 7-11.

- From the SOCIETY.— *Journal of the Society of Arts.* Nos. 1806–1811, 1813–1824.
- *Proceedings of the Society of Antiquaries.* Vol. xi, No. 3.
- *Transactions of the Society of Biblical Archæology.* Vol. ix, Part 1.
- *Proceedings of the Asiatic Society of Bengal.* 1887, Nos. 2–5.
- *Journal of the Asiatic Society of Bengal.* No. 274.
- *Journal of the Royal Asiatic Society.* Vol. xix, Part 4.
- *Transactions of the Asiatic Society of Japan.* Vol. xv, Part 1.
- *Journal of the China Branch of the Royal Asiatic Society.* Vol. xxi, Nos. 5, 6.
- *Report of the Leeds Philosophical and Literary Society for 1886–7.*
- *Bulletins de la Société d'Anthropologie de Paris.* Tom. x. Fas. 2.
- *Bulletin de la Société d'Anthropologie de Bruxelles.* Tom. v. 1886–1887.
- *Bulletin de la Société Impériale des Naturalistes de Moscou.* 1887. No 3.
- *Bulletin de la Société de Borda, Dax.* 1887, No. 3.
- *Boletim da Sociedade de Geographia de Lisboa.* 6ª Serie, No. 12, 7ª Serie, No. 1.
- *Bulletin de la Société des Sciences Naturelles de Neuchâtel.* Tom. xv.
- *IX Jahresbericht des Vereins für Erdkunde zu Metz für 1886.*
- *Mittheilungen der Anthropologischen Gesellschaft in Wien.* Band xvii, Heft 1.
- *Fünfundzwanzigster Bericht der Oberhessischen Gesellschaft für Natur- und Heilkunde.*
- From the EDITOR.—*Nature*, Nos. 922–927, 929–940.
- *Journal of Mental Science.* Nos. 106, 107.
- *Timehri.* Nos. x, xi.
- *American Antiquarian.* Vol. ix, Nos. 3, 5.
- *Science.* Nos. 228–234, 236–247.
- *Photographic Times.* Nos. 301–306, 308–313, 315–319.
- *L'Homme.* 1887. Nos. 9–11, 13, 14, 16–18.
- *Matériaux pour l'histoire de l'Homme.* 1887. Feb.–Aug.
- *Revue d'Ethnographie.* 1887, No. 2.
- *Bullettino di Paletnologia Italiana.* 1887, N. 7, 8.

MAJOR-GENERAL SIR FREDERICK J. GOLDSMID, K.C.S.I., and MR. E. DELMAR MORGAN, F.R.G.S., exhibited some Implements and Works of Art from the Lower Congo.

The following paper was read by the author:—

The LOWER CONGO; a SOCIOLOGICAL STUDY.

By RICHARD COBDEN PHILLIPS.

[WITH PLATE V.]

THE part of Africa dealt with in the following pages is the Congo River, from about Vivi downwards to the mouth, and the coast northwards to Loango, and southwards as far as Kinsembo. The chief ports which will be mentioned are as follows:—On the north bank of the river, ascending, there are Banana, near the mouth, Ponta de Lenha, Boma (often marked on maps as Embomma), Binda and Vivi; on the south bank San Antonio, Chimvika, Kisanga, Chichianga, Musuku, Noki, Angoango, and Matadi. On the coast-line southwards are Cabeça da Cobra, Mangue Grande, Mukula, Ambrizette, and Kinsembo; on the coast northwards Kabinda, Landana, Chiloango, Masabe, Ponta Negra, and Loango. (See Map, Pl. V.)

To understand the present system of society it will be necessary to take a retrospective view of the same, and also to set down the chief factors, external and internal, that have played a part in moulding the life and character of the native. Let us commence with the latter as they existed, say, thirty years ago, and then trace the progress of the tribes up to the present, noting the incidence of disturbing influences when they arise.

Of the external factors we will commence with the climate; this is damp, hot, and malarious, and uniform throughout the district in question. The mean temperature may be taken at 75° Fahrenheit, the limits being about 65° to 90°. The oppressiveness of the heat and the chill of the cold seem to be exaggerated by the great humidity, which is seldom less than 80 per cent. of saturation, and which often rises as high as 90 or 95 per cent. It is pointed out by Spencer that this character of climate has never been known to give rise to, or to sustain developed civilisation; hot, dry, and healthy localities being the birthplaces, and a somewhat colder climate the nurseries of such tribes as have laid the foundations of civilised nations. The similarity of climate throughout the district deserves attention: this combined with the similarity of the soil renders the productiveness of the whole district very uniform, no one place giving rise to products of a different character from those of the others; thus there is little possibility of an extended interchange of inland commodities, as each part can make for itself all that the neighbouring tribes could offer. The only noteworthy exception to this homogeneity is that between the littoral tribes and the inland tribes, the former can make salt, and can catch and dry fish; and thus an

interchange of commodities can take place to some extent. The influence of the trading factories will be considered apart, as it has varied from time to time during the period which we shall presently consider.

While on the subject of climate, it must be noted that the yearly rains are very variable both in their extent and in their time of falling, this has a disturbing effect on the crops that is often disastrous, paralysis of trade and scarcity of food being the result of these meteorological irregularities. The food of the natives is mostly vegetable, and the ravages of insects and mould are such as to make a reserve supply impracticable; thus the surplus from a good year cannot be made available in times of scarcity. Another result is that not more food will be grown than the natives expect to consume. To enumerate the chief food-stuffs of the Congo, the vegetable ones are mandioca, maize, several kinds of beans, the ground-nut (*Arachis hypogea*), the ground-bean (*Voandzea subterranea*), a few yams, and the palm-nut. This last is not cultivated, but is cut from the trees wherever they happen to grow.

For animal food, of which the natives eat but little, there are sheep, goats, ducks, and fowls, besides a little game, field-rats, and in some parts the larvæ of insects. The coast tribes make considerable use of fish, prawns, and, in some parts, oysters and crabs.

Another peculiarity of the country has to be noticed as having an immense negative influence on the civilisation of the Congo tribes; the difficulty of attack, and the shelter to a retreating party afforded by the dense woods which cover large areas. The banks of the river and the inland country present large woods and grass-grown spaces that can well protect fighting parties in ambush, these can pass from place to place without being seen by an attacking party, the roads or tracts are narrow and must be kept, otherwise progress becomes difficult if not impossible. The available springs of water are few and not easily found, their quality is bad and their extent limited. Thus a small tribe of natives can easily retreat or scatter, while an attacking force is placed at a great disadvantage. The inhabited islands of the river are situated in labyrinths of creeks, bordered by immense swamps of mangrove trees: the short and shallow cuts are perfectly known to the natives, while pursuit is impossible. This makes the subjection of the natives to a central power a practical impossibility; surprises, slaughter, confusion, and at last nobody to fight would be the end of an attempt to attack the island tribes in their swampy retreats.

No more convincing proof of the futility of attack can be adduced than that afforded by an attack some two years ago by

Portuguese gunboats on a small town named Katala. The vessels anchored opposite the village and poured in a fire from their guns and a hundred and fifty rifles for fourteen hours, the natives not even retreating; they scattered in the grass and behind trees, and in ridicule returned the fire with their flint guns, enlivening the proceedings by beating drums and making hideous music on their bugles. Had the vessels landed a force, a retreat of two hundred yards would have been quite sufficient to give all necessary shelter to the natives. The Portuguese recognised this, and after being thus befooled, weighed anchor, and departed amid the derision of the natives. The result was one woman fatally wounded, who was innocently watching the approach of the vessels, when they opened fire without a moment's warning. I should like to add that this attack was not only unjustifiable, as have been all the attacks I have known (with one possible exception) during a sixteen years' residence in those parts, but that no pretext whatever had been given until the town had twice been attacked by bellicose traders.

However, I now refer to the affair to emphasise the statement that the natives are shielded from attack by their surroundings, and to a much greater extent than most people would imagine. Higher up the river, this protection by swamps and woods ceases.

Bearing then in mind that the external factors are generally adverse to progress, we will now consider the natives physically, and then turn our attention to the internal, or mental factors which must be understood in order to form a just estimate of the Fiote, as they call themselves.

No systematic measurements¹ of natives have ever been made, but they appear to be of a rather low stature, broad and muscular, with slightly larger viscera than the European.

There is, however, much difference in tribes in various parts, the apparently best nourished being the island tribes, called Misorongu, between Banana and Ponta de Lenha, and those of the south bank of the river; next come the Loango and the littoral Kabindas, then the river natives from Ponta de Lenha upwards, and lastly the coast tribes south of the river, comprising Mukula, Ambrizette, and Kinsembo. The appearance of these latter tribes seems to have degenerated of late years through repeated famines, they are much more miserable in appearance than formerly, being now wasted and lacking muscle in a high degree. The difference is marked between the Misorongu below Ponta de Lenha and the natives of Kabinda

¹ It appears that Dr. Falkenstein has made many such measurements, but the results are not yet generally known.

origin above that place, a difference for which it is difficult to account, but which may perhaps to some extent be due to the greater amount of fish caught in the lower part of the river, and the more extended cultivation of the more secure islands. A curious feature of these Misorongos is the peculiar womanly cast of features when the body is covered with a shawl, it is often hard to distinguish the sex of the individual in the absence of hair on the face, as often happens. Strange that the most turbulent of the Congo tribes should have such a feminine appearance!

As for the bodily proportions, the arms are somewhat longer in proportion to the legs than in the European races, the legs showing a falling off from the acknowledged standard. The natives seem to show in some respects a greater strength than civilised races, and in other respects the reverse; this anomaly may perhaps be explained by the following considerations:—The natives excel in carrying weights, which the civilised man drops through pain, not through weight; a hammock carried on a pole over the shoulder soon becomes unbearable to us if no pad be used, through the cutting into the shoulder, not from the weight itself; were the load more comfortably distributed we might carry it as easily as the native; it is insensibility to pain, not extra strength, that enables the native to bear such loads with ease. Again, take endurance in walking. The native is in his fitting climate, and is doing what he does every day, but the European, besides the disadvantage of disuse, has to support an almost intolerable degree of heat, which deranges the power of endurance more than the muscular exertion.

In a fair trial of strength the European would probably show a decided superiority.

Strength and endurance depend not alone on the development of the muscular system, requisite though that is, but on the state of the nervous system, which supplies the force that works the muscles. The view that the nervous system is wanting in development explains the phenomena we find, and the general insensibility to pain, the indifference to heat and cold, and the absence of shock after severe injuries, all probably depend on the same reason.

Whether insensibility to heat and cold, and immunity from their effects go together, I cannot say, but it is certain that no European could endure the extremes that the native bears with indifference.

Fevers, which are dangerous to the European, are much more easily thrown off by the native without the use of special medicine; they go away and do not return, which is seldom the case with the European.

The digestive system of the natives is larger than that of the civilised: they can eat enormous quantities of food at a meal without inconvenience, and then fast or take but little nourishment for a long period. Their fat-deposits appear to respond at once to the requirements of the body, fluctuating according to the amount lately eaten. This physical peculiarity is necessitated by the conditions of existence; death would soon result were the system to require a proper amount of food at stated intervals, as the food would often not be obtainable. The feast-and-famine existence to which uncivilised races are subject, makes the corresponding bodily peculiarity common to savages in general. Monteiro, an accurate observer, considers these races as probably a degenerated remnant of higher developed forefathers, and in this view I coincide; evidence in favour of this view will be forthcoming later on.

Turning now to the emotional nature of the natives, we find a manifest inferiority. Their feelings, prompting action, are characterised by impulsiveness, as in the youth and the lower orders of the civilised; though usually serious they are easily roused to laughter by anything ridiculous. I have seen questions of apparently a serious nature laughed off by some comical remark; though friendly disposed towards each other they quarrel about the veriest trifles, a handful of peppers, or a leaf of tobacco often originating a fierce dispute.

Tell them that it is childish to quarrel about such trifles, and they will probably look foolish and laugh over the affair. Fond of their wives and children, they still abuse them for trifles, or get the crotchet into their heads that some near relative is bewitching them, and forthwith destroy them with the poison ordeal.

Their property they use in the same impulsive fashion; after haggling half a day for a trifle, they will give away more than the value of the disputed article. While demanding heavy damages for the most trifling aggression, they will almost ruin themselves with liberality rather than be thought mean. Stinginess is the black man's abomination, as it is of our school-children.

Reliance on the capable man is a very prominent trait in their character, as with females and the lower orders at home; a master of slaves, or the father of a family may be very exacting towards his dependents, yet they will support him devotedly if only he can protect them from outside annoyance. The lenient man is looked on with suspicion; they fear he has not spirit enough to properly resent aggressions, and their loyalty diminishes. The Fiote are thievish, but, as a rule, confine their depredations to objects of little value, or such as

they think will not be missed. They do not wish to injure foreigners, but steal general goods when opportunity offers, thinking that the white man has plenty more, and will not miss a small quantity. The proprietary sentiment is but little developed, the native, after accumulating a small stock of goods, is quite content to spend his time in idleness until his stock runs short, and want compels him to renew his labours.

The natives will seldom undertake labour unless the returns will be speedy. The planting of trees that require much time to mature, or any other labour whose outcome is not speedy, is seldom undertaken; this is by no means entirely due to listlessness, but to the fear, often well grounded, that they may not reap the result of their labours. They may be dispossessed by a stronger man, they may, meanwhile, have to migrate to some distant part, or they may die in the meantime. Custom, again, plays a great part in determining the actions of the natives; they do not like to be eccentric, and what is customary becomes a law for all. Thus are perpetuated the uncomfortable fashions of tattooing the body, the wearing of heavy brass rings round the ankles, the filing or knocking out of teeth, circumcision, the going bare-foot, &c.

We are so accustomed to the phrase "sack-cloth and ashes" in connection with the funeral rites of some eastern nations, that we seldom think of it as a filthy, disgusting mode of expressing sorrow. The Congo custom is almost identical; the natives rub themselves in the soil and wear their dirtiest garments for several days after the death of a relative, presenting a shockingly dirty figure. One has to think it strange that they cannot mourn in a more cleanly fashion, but such is the custom, and no one can change it. If a trader perform a friendly service a few times for a native, it becomes looked on as a custom, and is forthwith expected as a right. Small need to say that gratitude is very rarely exhibited by the natives, when every favour is so soon looked on as a matter of course.

The Fiote are untiring beggars, even amongst themselves, and on obtaining what they ask, they go away without saying "thank you."

Hospitality is well developed among the better classes, and the parting guest always expects a present.

Parental affection is better developed than might be expected among races where descent is reckoned through females. Where relationship of father and son is fully known or firmly believed in, fathers are affectionate to their children, and mothers uniformly so. Conversely, children are respectful and obedient to their parents, allowing always a certain amount of latitude for boyish wilfulness.

Although I have considered the emotional nature low, there is a remarkable exception, the sentiment of public justice. In any dealings with the natives, if a European suffer aggression, and can clearly prove that such is the case, he is certainly adjudged to be in the right, and the offender condemned to a penalty which is assessed by the natives and the European : and further, if a chief promise that such and such a fine shall be paid, his word is in all cases sufficient. I have never known an instance where this statement fails, and the fact is the more remarkable as the chiefs present are not one whit better than the culprit, nor are the other natives who join in condemning him. How this extraordinary trait could have been evolved during a development from a lower form than the present, I am at a loss to understand ; it seems more likely to be an outstanding remnant of a higher state, of which we find other vestiges.

In intellect we find the same stunted development as with the emotions ; the relation of cause and effect, in all but the most patent and mechanical of cases, being beyond their grasp. Here again, custom rules ; just as many a school-boy performs operations with fractions thus and thus because he has been told to do so, and believes the answer will be right because it is the rule, so the natives attribute known effects to the most inadequate causes, inadequate both quantitatively and qualitatively.

Let us take a case. Some years ago, the chigoes, or burrowing fleas, were imported from Brazil ; let us ask a Kabinda what is said as to their origin.

He will probably say they have come because the King of Kabinda is not yet buried (a man who died forty or fifty years ago), and nothing will persuade him to the contrary. You may point out that in Loango, where the king is still alive the chigoes are just as bad, or that they are as troublesome in Ambriz, where the Portuguese hold the land ; nothing will alter his belief.

Again, a certain drought in Landana was attributed to the missionaries wearing a certain kind of cap during service : the natives said that this stopped the rain, a great outcry that the missionaries must leave the country was raised, and things looked really threatening. The missionaries showed the native princes their garden, that their cultivation was being ruined for want of water, and asked if it was probable that they would spoil their own crops ; the natives remained unconvinced, and only when the rains at length fell plentifully did the excitement subside. The capacity for the lower intellectual acts of perception, recognition, memory, &c., is well developed, and appears early in childhood ; in this respect the natives are much on a par with the civilised races, but the limit is reached early in life, and

but little mental progress is observable after adolescence is reached.

The ideas are mostly of the simpler forms, seldom passing the concretes of actual experience, generalisations being, as a rule beyond their power.

Association of ideas though good as implied by good memory, only takes place in the concrete form of contiguity in time and space as actually already perceived; analogies are confined to the crudest forms, and a very simple figure of speech is apt to be unintelligible. Although the majority can fairly well explain their ideas in Fiote or Portuguese, yet an attempt at literal translation is soon given up in despair; a simple thing like the conjugation of a verb in Fiote, when the Portuguese is repeated to them, being usually beyond their powers. They soon complain of headache, and call to their companions to assist them. The fundamental act of intelligence, the intuition of likeness and unlikeness, is very circumscribed; and high acts of intellect are thereby negated.

How then, it may be asked, are decisions of public justice to be formed in the absence of extended intelligence? The answer is, that each case is judged on its own merits, and by the recognised customs of the country. Moreover, the issues are seldom of a complicated nature, so not much difficulty arises on this score.

An accompanying trait is the absence of rational surprise; on seeing something new a vacant wonder is all that is observable, and this is very transient, and the new experience is classified as "white man's fashion." It almost follows as a matter of course that there is no curiosity, no wish to enquire into the cause of a novel experience; it never occurs to the native that there is a cause of the novelty or an explanation required. In like manner there is almost total absence of theorising about natural phenomena. It is worth while to here remark that these traits in the intellectual and emotional nature constitute an immense obstacle to missionary effort, and no striking results in this direction can be expected; nay, the wonder is that anything can be done for the elevation of the native.

Let us now examine some of the native ideas, and I think it will be seen that the present are the outcome of a forgotten past system, a ruinous heap showing where a former edifice had been reared.

Take first the wizard, the ndochi, as he is called.

No theory of occult art or magic, no diabolical attributes will enable us to understand the native's ideas on this subject. The only thing he knows, or thinks he knows, is that the ill-will of some people is physically detrimental to others.

These people are called *ndochi*, translated wizards or witches, but their power is supposed to be a natural attribute, if we may use the term where the natural and supernatural are not contrasted. The anatomical structure of the *ndochi* is supposed to be peculiar, and his baneful influence is inborn, though developed afterwards.

This power may exist without the knowledge of the possessor, and may equally produce its evil effects without his knowledge.

It would appear also that if any ordinary person only become envious and spiteful enough, he may develop into the *ndochi*, though formerly innocent enough. Thus misfortune, disease, and death are generally attributed to the ill-will of some *ndochi*, and it becomes of importance to detect and destroy these dangerous people. This is done by means of a poison ordeal; the bark of a leguminous tree, called *nkasa*, is ground to powder, and a given dose is administered to the suspected person; it has three modes of action, as an emetic, a purge, or a toxic, causing death by coma.

The first of these effects indicates innocence, the others guilt. The belief in the efficacy of this ordeal is capable of a perfectly natural explanation, but as it is never inquired into by the native, it is not necessary to dwell on it here. But again, the tree is not looked on as possessing supernatural properties, but simply as possessing this valuable property, just as other trees possess other valuable properties. Prophylactics are also required against the *ndochi*; these are found in various charms, of which the natives, more especially the women, wear a profusion. The charm may have had its origin in mummy-worship, as has been ably contended, but the black man does not puzzle himself with what does not concern him, he only wears them, which is enough for his purpose.

The charm, or fetish, has outgrown the limit of protecting the wearer from the *ndochi* class; there are magical images for the discovery of thieves; the repression of drunkenness and other social obliquities; the registration of oaths and contracts. For petty thief-catching, a form of ordeal by fire is in great repute. These beliefs, Spencer shows, are absent in the most degraded tribes of savages, and do not make their appearance until a considerable development has taken place. The disappearance of all theory, while the forms remain, seems to indicate a degeneracy from a higher development. Indeed, in the absence of a written literature, it is probable that the past of any tribe of uncivilized people would reveal, could it be known, many fluctuations in development—sometimes progressing, at other times retrogressing.

As to the religious and theological ideas of the Fiote, they

recognise the existence of *Zambi*, the son of *Mpungu*, the daughter of *Dezu*, as a supreme being. *Zambi* is supposed to be somewhere in the sky, but whether *Mpungu* and *Dezu* are now alive nobody seems to know or care.

Some of the missionaries consider this account as inexact, their information being that *Zambi Mpungu* is one being; what they make of *Dezu* I do not exactly know. Probably we are both right; our information is drawn from somewhat different sources, and the native ideas are so uncertain that probably both theories are held.

The one I have adopted is perhaps a corrupt form of the teaching of the old Catholic missionaries, *Dezu* being a corruption of *Deus*, and the importance of the Virgin has led to the feminine form as adopted by my informants. However, no great importance would attach to a correct rendering of the doctrine of the Trinity, as no worship is paid in any form; it is merely a piece of useless knowledge, a relic of former days.

During an epidemic of small pox, I often heard say that *Zambi* (never *Zambi Mpungu*) is a bad person, wanting to kill everybody.

It is some little comfort to the missionaries that there is no complicated polytheistic system to get rid of, as that could not fail to greatly increase the difficulty of their labours.

Some natives are inclined to believe in a future life, but lay no stress on it. The tales of ghosts seem to prove it, but on the other hand these ghosts are a malignant class of beings who may never have been alive at all, and who now lead a wretched kind of existence; so the hope is that good people will not have this infliction after death, but rest quietly in their graves.

The graves of kinsfolk are not revisited. I at one time thought that this was due to indifference, but now attribute it to another cause. I once offered a woman the portrait of her deceased son, which she refused to my astonishment. She explained that she should cry whenever she saw it, so she preferred not to have it.

The magicians employed as rain-makers, makers of charms, and doctors, perform certain rites that seem to be propitiation of superior powers or ghosts; but inquiry only confirms the view that they are shreds and patches remaining from a time when they really were such, but from which the significance has departed, leaving the bare form.

Let us now pass on to the consideration of the social structure, first confining ourselves to those features which have remained practically unaltered for a long period, and afterwards tracing the changes that have of late years arisen.

The foundation of the social system is the family, consisting

of the head man or patriarch, his wives, family proper, dependents, and slaves.

The dependent class consists of poor free people who attach themselves to the strong man for protection, and in return acknowledge his authority. It is necessary to belong in some form to some man of influence and respect, or the individual is open to depredation on all sides and obtains the support of none. There are also quasi slaves, having been delivered over by their families as hostages for debt—for litigation between families ultimately takes the form of debt—and as it frequently happens that payment is delayed, or even impossible, these dependents remain all their life under the authority of the new master. Their condition is, however not worse than before, and they are indifferent as to their ownership. The only claim on them is a part of their earnings, which in any case they would have to make over to somebody or other.

The consideration of the slave class is a convenient point at which to take up the historical part of the subject, I shall therefore proceed to relate their condition in the slave trading times, and point out the changes which have since taken place. Going back, then, say thirty years or more, we find the slave trade in full force; the wealthy natives possessing a large number of slaves strictly domestic, and not destined for sale. Besides these, they purchased such as were brought from the interior for export; these were procured by the interior tribes in various ways, some doubtless by slaving raids on their neighbours, others made over for debt, others again were criminals, waifs, and slaves of those who, by misfortune, or otherwise, were unable to support them. The slave raids were probably confined to the interior tribes, the coast natives preferring to buy rather than capture them.

The export slaves were of the apathetic nature of slaves as we now find them; they were not seriously troubled at the thought of changing owners, the only dread being that they were wanted for food in the country across the water. This fear was often dispelled by the accounts of slaves who had been in America or Cuba, and who gave them accounts of a good time in their new homes.

The chief trade carried on by the whites was in slaves, that being the most lucrative article of commerce; there were large barracoons where the export slaves awaited transport; the white men having their staff of domestic slaves to attend to the well-being of the passengers. I have been acquainted with several natives who were thus employed, who possessed a very fair knowledge of medicines useful in the prevalent diseases of the natives. The slavers well knew that more was gained by letting

the export slaves rest and amuse themselves than by requiring them to work, and besides this there was little or no work for them to do.

They thus lived a life of unrestraint, free from care, as long as it lasted, the hardship of the slave's life commencing with the horrible middle passage, where they endured the hardships that are so well known. It is a belief with many that the English cruisers made an end of the slave trade: no notion could be more erroneous, they prevented many from arriving at their destination, and by forcing the slavers to overcrowd the ships increased the hardships of the remainder, but probably not one slave the less was exported in consequence of the blockade, but probably more than would have otherwise been required were obtained to fill the places of the unsuccessful shipments. The profits were such that one successful run out of five would insure a profit, and the comparatively few arrivals in America kept up the demand. The death of the slave trade was the cessation of the demand; that and that only prevented the traffic existing to-day. For there is now no slave trade on the Congo, it is confined to the east coast, and in a restricted form to the Portuguese colony of Angola. It is the custom for Portuguese apologists to exclaim that there is no slave trade in their possessions; well, we need not quarrel about names, and it seems best to confess that there is a relative gain to the slave by being in the hands of a white master. I can testify with tolerable certainty that the life of the slave is better and more tolerable under the civilised master than under the native, and the demand, if the supply be not checked, is probably not greater than the surplus population, the natural increase of the slave class being sufficient to supply the demand without raids being resorted to.

The native family at the time we have been considering, will thus be seen to be a combination of considerable power, and mutual antagonism may well be conjectured; this was to a great degree prevented by the marriage customs. The natives are polygamous, and the usual consequences followed.

It is a mistaken opinion that in a polygamous society most men have more than one wife: the relative numbers of the sexes forbids the arrangement being extended to the whole population; really only the wealthier can indulge in a plurality of wives, the poorer having to be content with one or often with none.

Thus the heads of the families were they who for the most part had a plurality of wives, and the marriage laws made it forbidden to marry a relative either by birth or by previous marriage: thus each family became widely connected by marriage with as many other families as the head man had wives, and so

a vast network of relationship connected the different families. These families, sometimes singly, sometimes two or more together, formed the villages, or towns, as they are generally called, so the towns became all more or less related to each other. This prevented the constant broils which otherwise would have surely taken place; things were settled sometimes with a little fighting it is true, but seldom with serious disturbances. As superior authority there were the kings who presided over considerable districts, and sundry officers who had charge of sub-sections, these were the Mambukus, each having his Kapita, Mankaka, and sundry other petty officers.

The whites were admitted to residence and trade on payment of blackmail to the neighbouring chiefs, and were then considered in most, if not in all respects, entitled to the same respect as the free men themselves: they were considered as naturalised inhabitants of the country. This blackmail, in return for which the trader was promised the friendship of the surrounding tribes, went and still goes by the name of customs: there was a stipulated amount paid for establishing in the dominions of a given king, and so much paid quarterly, half-yearly, or yearly to the neighbouring chiefs in each branch establishment while open. Establishments might be transferred from one trader to another, but if abandoned the land reverted to the natives. The tenure of land among the natives was as follows:—The neighbouring towns agreed among themselves as to the division of land for planting or building, and as such, the head of the town had the authority to grant a location to a white settler, but land was never the private property of any one native. At the time of which we are treating, certain firms located themselves in the districts for the purpose of legitimate trade, and so by the side of the slavers there grew the origin of the commerce as it at present exists: the domestic slaves of the natives learned to extract oil for export, to grow ground-nuts, and prepare rubber and other articles of commercial value. The chiefs provided them with food and clothing, and claimed the produce of their labour.

With the cessation of the slave trade, the chiefs became poorer, and the whole of the working population was turned to produce and to sell to the whites, the more intelligent of the slaves acting for their masters.

A class of brokers also arose, as natives from a distance were wishful to bring produce to the factories for barter, in order to obtain at first hand the articles they most needed. The general population then awoke to the fact that they might as well do business on their own account and not entirely for their masters. The chiefs, growing always poorer, could at last no longer pro-

vide food and clothing for the slaves, who had to shift for themselves as they best could. Their exertions became more and more on their own account, and less and less for their masters, the demands of the latter being resisted on the very reasonable grounds that they must first support themselves and then give a something towards the support of the masters. Thus the power gradually passed into the hands of the people, leaving ever less and less to the chiefs. Custom however, preserved to these the chief voices in political matters; they remained the body convening public meetings, and were the chief deliberative body, the populace usually confining themselves to signifying their assent or the reverse. The whites retained their status in return for payment of their customs, and had the same voice as before in such questions as concerned them.

Disputes with the natives were generally easily settled, though in rare cases the assistance of European force has been obtained. Better were it, had the traders been given to understand that no help whatever would be given them, come what might; I have generally found that reliance on governmental interference has resulted in arrogance leading to disputes which have ended in loss of trade and expense and humiliation to the traders, coupled with injustice to the natives. For the natives have no chance of making their side of a question known, and are judged to be in the wrong without due reason, but that does not prevent loss to the trader, for the social state being disturbed, trade is diverted to other parts, at times for considerable periods.

Something should be said on the former piratical habits of certain of the river tribes.

In the islands near the mouth of the river there are towns which, from their isolated position, are out of the lines of trade; in former times they developed piratical habits to the great annoyance and detriment of the traders; vessels were plundered, but no one was killed unless they offered resistance to the attacking parties. In consequence of this, some years ago, a demonstration was made by the English, which appears to have had a good effect—at any rate, I believe the practice of piracy has been altogether given up. I could, however, mention a Portuguese trader, who maintained an attitude suited to those times, as owner of a large number of domestic slaves, who enjoyed a complete immunity from these attacks; and who, generally ready to help others in want of assistance, has done more than all the European governments to put down piracy in the river. Some firms, fearful of ill-repute at home, have left themselves open to these attacks, and suffered much loss through them, and now that the necessity has passed, they underrate the efforts of

their more daring neighbours, and would point to an English naval demonstration as the cure of the evil. These piracies have long been a thing of the past, and a recurrence does not seem at all likely.

Of late years several missions have been established in our midst, and have been pushed far higher up the river than the traders have yet gone; their influence is not very apparent, nor should it be expected to rapidly show itself, from the very nature of the material on which it has to work.

The most rapid growth is the tumour, a diseased formation tending to the destruction of the body, so I greatly suspect it will be with the conversion of these heathens; slow, sound progress is the proper progress, and if that be going on, as I believe, it is wise to be patient, and persevere in faith. Accounts reach me of rapid progress at Banza Mantika, halfway up the road between Stanley Pool and Matadi, just as ten years ago I was informed of rapid progress at Benin River: as this last has shown itself illusive, so I expect will the former.

Unpopularity of a chief may cause a tribe to desert him, they congregating round a mission station, but this cannot be expected to last: some necessary regulation of the missionary's may cause the dispersion of the new converts.

But to say, as some say or imply, that missionary effort is a failure, I deem ignorant and presumptuous. I think, however, that they should be more in our midst, and not all crowd into the upper river where freight on goods runs away with much wealth that might be much better employed.

The supporters of missions at home think that the coast natives have been so debased with the spirits sold them by the traders, that no effort can prevail to better them. This is far from the actuality however; the traders would have but a poor chance of doing trade were the coast tribes so bad as they have been represented. It may serve to explain native habits and manners to relate the following incident:—

Having an excellent cook who was at times intemperate, I sent for his chief, and after the usual greeting, addressed him somewhat as follows:—"See this cook of yours, everybody knows he is the best cook in the country, yet he is becoming a useless fellow. I cannot get anything properly cooked, as I find him drunk and incapable, instead of minding his work. He has already been discharged four or five times from this factory for intemperance, and each time he goes to town he remains until he has spent all his cloth for rum, and then he begs his industrious neighbours to feed him. He has the mark of an old cut on his forehead where Senhor Fulano hit him with a soup-tureen for spoiling the dinner, and if he goes on in

this way he will fall into the river and the crocodiles will have him.

"Now I want you to bring a fetish and knock it that he shall not drink any intoxicating drink as long as he remains in my service. I will pay the cost of the fetish, but bring it along early, or this fellow will spoil my dinner." The chief replied, "Yes, sir, you are quite right, he is a good-for-nothing fellow, he is of no use to us in town, and of no use to the white men: we will bring the fetish as you request, and hope he will give you no further trouble." The fetish was brought, a nail was driven in, and the nuisance put an end to. As long as the nail remains in the figure, the man believes that breaking the law gives the fetish the power to kill him, and he therefore behaves himself on pain of death. He could buy the removal of the nail, but at great cost, which he cannot afford, for though it costs but little to put a nail into a fetish, it is expensive to get it out again.

An interesting relic of former development is found in the Kabinda class of people, called *Ndunga*, a set of masked and disguised men, who have license to steal anything that they can lay their hands on without disclosing their identity, and who may kill anyone who succeeds in identifying them. They were formerly appointed as secret agents of the king to gather information, and to accuse powerful masters who were unjust to their inferiors. This they could do with safety, while preserving their *incognito*, and so great was their usefulness that they were held justified in the use of any means to preserve their character. They dress in a large cloak of leaves that falls from the crown of the head to the feet, and wear a mask on the top of all, thus having a gigantic and terrible appearance. They disguise their voices when speaking to outsiders, so that no one can tell with whom he is speaking. When returning to the town, they leave their cloaks in the bush, hidden away in a safe hiding-place. With the rise of popular power, they have had less and less work to do: to-day they have only left them their privileges and some connection with rain-making. So it too often happens, institutions survive when the need which called them into existence has disappeared.

A few other examples of native manners and customs may be of interest. I will give one concerning inheritance, which is rather curious.

It has already been said that descent is reckoned through females, the meaning of this may not be clear to all. If a man die, the bulk of his property goes to his sister's son, not to his son; the reason being that of the blood-relationship of the nephew there can be no doubt, but the descent of the son may be questioned.

The nephew is, therefore, looked on as a nearer relative than the son, and he is the heir, and should he die, more grief is felt than in the case of the son.

A strange exception is made when a man marries a slave of his: the son then ranks first in this case, as the natives say that he is not only presumably the next-of-kin by birth, but also by purchase, as the mother belonged to the father.

Did this rule not hold, the son would become his cousin's slave, which the natives see would be absurd and unjust.

Slaves can buy slaves for themselves, and often become men of importance; in Ambrizette some of the wealthiest and most influential men are slaves without masters. The masters have become extinct, and the slaves carry on their trade without hindrance, having their own towns and slaves just as have the free men. The only difference observable is that the slave traders are not allowed to wear silk or coral, and if they become "too saucy" as the free men term it, they are reminded that such conduct is unbecoming in slaves, and that they ought to be more respectful. They generally acknowledge the truth of this, and fall into the background. A keen lawyer of the place once explained to me:—"You see the pattern on that plate, you cannot alter it, the white is made white and the black is made black, and no one can change it. So it is with the slaves, they are born so, and the free people are born free, and no man can make it not so."

Honesty is not conspicuous, but the following occurrence is worth relating:—One morning two strangers presented themselves with a bag of palm kernels and told me that their chief had been shot in a quarrel, but before he died he told one of them that he had long owed me a bag of palm kernels for goods advanced on credit, and he was wishful to pay me.

The messenger had scarcely started when the other joined him with the news that the prince was dead. So they both brought me the news and the payment.

APPENDIX.

The Origin of Ordeals.

The origin of charms, whether trivial objects worn by individuals, or the more imposing magical images of the Fiote, has received much discussion; I need scarcely remind you that much of the first volume of Herbert Spencer's "Sociology" is devoted to this and cognate questions; I do not, however, remember having seen any attempt to explain the origin of ordeals by poison or by fire.

The belief in these ordeals is, or has been, very widely distributed in space and in time, and it appears to me that we are bound to seek its origin.

This is also true of the belief in the evil influence of the people known as witches, in the sense in which the uncivilised employ the term.

It appears safe to conclude that in the normal conditions of savages, widely scattered over the face of the earth, there must have been from time to time circumstances which would lead them to infer bewitchment, and to point to these ordeals as the remedy.

Can any such cause be now assigned, or is it lost for ever? In order to raise this question, I would submit the following attempt at explanation, subject to the correction and criticism of any who may be able to throw other light on the subject.

In a given body of savages, wherever situated, it will from time to time happen that one is desirous of secretly destroying some other of the number.

Open violence may be inadmissible, and the only likely method is to poison him.

Of poisons known to savages, all are vegetal, and not in the form of alkaloids or tinctures, but in the crude form of leaves, seeds, and bark.

Many such substances must be known to savages, but other difficulties present themselves; the poisons must not be too nauseous, and their quantity requires regulating to avoid vomiting on the one hand, and a dose that will only derange and not kill on the other. These difficulties are not easily overcome, and such attempts to poison will often fail.

But though success be not easy, suspicion will almost inevitably be aroused; two, three, or more find themselves simultaneously sick after eating together, or they observe an unaccountable flavour with their food, and they will be sure that someone has attempted to poison them. Circumstantial evidence will often indicate the culprit; he has been seen lurking about the cooking-pot; he is known to be at enmity with his fellows, or strange beans or bark are found in his possession.

What is more natural than for him to be forced to partake of the same food? And will not the others see that he eats his fill, if so much be left?

The physiological effect of fear, as far as I am able to hear, is a surexcitation of the vagus nerve, inhibiting the heart's action, and so checking the circulation of the blood. Other consequences must follow, among which is the stoppage of the flow of saliva, and paralysis of the muscular coats of the stomach.

For this last reason, the culprit will be unable to vomit, and

the poison will produce its full therapeutic effect, be that coma, drastic purging, or other.

What will strike the attention of the spectators is the peculiarity that the culprit cannot vomit, and his confession, or the independent knowledge of his guilt will lead them to conclude that poisoners cannot vomit such and such a poison.

But out of several poisons some one or two will produce more marked emetic effects on people in general than will the other drugs: these will then be looked on as excellent tests of guilt, the emetic effect proving innocence, the absence proving guilt.

This theory, once started, will not rest at this stage; it will be concluded that the poisonous or non-emetic effect is produced not by the previous action of the individual of letting fall a certain substance into a pot, but by the fact of the criminal intention.

Thus it would soon be a current belief that not only actual poisoners, but also would-be poisoners, could be discovered by this ordeal.

Much further growth is now possible. A given person, feeling himself sick, thinks he is poisoned. Suspecting an enemy, he denounces him, and makes him undergo the ordeal. The suspected person fails to vomit, thereby showing that he is at any rate a would-be poisoner, but he persists to the last that he has actually done nothing whatever against his neighbour. After his death, the sick man recovers. This is often the case, ailments far oftener disappear than end fatally, but for ignorant savages there is nothing irrational in their coupling together their recovery and the death of their enemy, and thence arguing that their illness was caused by the enmity.

Thus might spring the idea of the *ndochi* or witch, who simply by the fact of his ill-will causes sickness or misfortune to others, who can, however, be tried, condemned, and executed in a safe and convenient way, by poison-ordeal, with presumably little chance of poisoning the wrong man.

Is there any collateral evidence to support this theory? I think so; the natives inform me that the powdered bark is easily swallowed by innocent people, but with difficulty by criminals; this is probably in consequence of the non-secretion of saliva already referred to.

A similar phenomena is observable in the Malay ordeal of chewing rice; the criminal cannot moisten his mouthful but spits it out in a dry condition.

The ordeal of the hot knife affords further evidence:—A suspected person bares his leg, and after a few magical rites receives three slaps on the calf with a hot knife.

If the circulation of the blood be stopped the heat of the knife cannot get drafted away at the same rate as would otherwise be the case, and the individual will be burned. This ordeal is in high repute to discover petty thieves, and probably with justice. It is suggested that the magician regulates the heat of the knife to burn whom he will, but I have seen cases when this was certainly not the case; the knife made the man's horny hand smoke as he tried the temperature before applying the test to each individual, yet on one occasion he failed to burn any out of thirteen youths. He went away declaring them all innocent, which afterwards proved to be the case. Yet so great was the heat, that, although not actually burned at the moment, in two or three days all but one had raw legs!

Did the magician burn whom he chose, he would make many mistakes of omission or commission, and his fraud would be of short duration.

Another ordeal, consisting of eating mandioca, a staple food, from the mouth of a fetish, causes the body to swell up considerably; if this swelling be also a secondary effect of fear, we may be on the right track to discover why of old witches would not drown.¹

Without further speculation on these matters, I would remark that it is well known to the natives and to the whites residing in their midst, that these ordeals are usually successful in bringing many delinquencies home to their perpetrators: if this be admitted, and not rejected without examination as impossible, further research is a duty, and a more interesting one could hardly be found.

Description of Plate V.

Map of the Lower Congo, showing the position of the various localities mentioned in the foregoing paper.

DISCUSSION.

MR. E. DELMAR MORGAN, in making some remarks on the collection of objects exhibited from the Congo, before the reading of the paper, spoke as follows:—

I will endeavour as shortly as possible to give you my impressions of the Congo and its people as I found them four years ago.

The office of Administrator for the International Association which devolved upon me after the severe illness of Sir Frederic Goldsmid, gave me opportunities for observing the natives, the more

¹ The phenomenon of swelling is exemplified in the Mosaic ordeal (Numbers v, 21). I am not prepared to hazard any explanation of the other symptoms here mentioned.

so as the special object of our journey was to endeavour to bring about a good understanding between them and the Association. At every halt we made in our progress up the river it was our practice to invite the chief men of every village to a conference, or what is known in Africa as a *palaver*, to which they invariably came bringing a few gifts such as fowls, a goat or two, a bunch of bananas, or some other fruit, and occasionally specimens of native industry. In return we on our side bestowed on them a few yards of cloth, calico, or bright-coloured handkerchiefs, blankets, beads, &c., together with the blue flag of the Association which they were expected to hoist at their villages. At these palavers I was obliged to remain a passive though interested spectator, the talking being all done by the Belgian officer who accompanied us.

The natives are usually great talkers, emphasizing their speech by clicking the tongue or by cracking the joints of their fingers, a practice also followed by the interpreters employed by the Europeans in their dealings with them. On one occasion the audience, seated in a circle round their spokesman repeated after him in chorus the two last syllables of each sentence or parenthesis; apparently their way of signifying approbation just as we might say, "Hear, hear." The effect of this was to lend a rhythm to the discourse. The orator, aged and experienced, wore an old military tunic, and had a military cap on his head, giving him a droll appearance, and the burden of his speech was a review of the intercourse between the blacks and Bulu Matadi's (Stanley's) white men. Next to him sat a chief with a necklace of leopard's teeth, a bunch of feathers stuck on his head, and brass armlets. Many of them carried old-fashioned muskets, known as trade-guns, the stocks ornamented with brass nails. But the insignia of the chiefs on the Lower Congo were more often long staffs studded with brass nails or with a tuft of hair fastened to the handle; a small bell held in the hand, and continually tinkling on the march, sometimes formed part of the equipment.

The first natives I came across on the Lower Congo were the Mussorongos, or Mushirongos, inhabiting both banks from the mouth upwards for about 60 miles, as well as the swampy islands. They are fishermen, but some few may be seen at work in the European factories. The Mussorongos are well known to the officers of Her Majesty's ships, and of other vessels visiting the mouth of the river, and they are frequently mentioned in the Blue Books; they are physically a degenerate race, and have the unenviable notoriety of being pirates.

The Kabindas I first saw at Vivi. They come from the coast a little to the north of the Congo, and are paler skinned than the negro. The Kabindas too are tall, well made, with good features, the women being graceful and occasionally pretty. Having come under the influence of the Portuguese they are more intelligent than the people farther inland. Hence they are useful as intermediaries between Europeans and the natives, though inferior to the Zanzibaris trained in the English missions on the east coast. Another

race whom I shall mention are the Krumen who were at the time of my visit in the service of the Association. Their home is on the west coast between Cape Palmas and Cape Three Points, and they claim to be the rightful owners of Liberia. The Krumen or Krubos are thick set, powerful men quite black in colour. They hire themselves out to the captains of trading steamers, and make themselves useful when the white crews are overcome by heat and attacks of fever.

Turning to the natives of the Congo proper—those on the lower river are a mixture of Bakongos or Basongos, Babwendes, Batékes, and other tribes of the upper districts. These are distinguishable from one another by their tattoo marks and other peculiarities, to be recognized by the experienced eye. Their language is the Bakongo dialect of the Fiole tongue spoken with variations right across Africa from east to west, and generally known as the "Bantu," a word signifying "people." Their dress in the districts more accessible from the sea coast shows that European intercourse is gradually changing their primitive habits. Thus the Kabindas wear shirts and even jackets and trowsers; the Congo tribes a waistcloth of calico or only of reeds or grass cloth, but the chiefs are beginning to cover their shoulders with coloured blankets or some gaudy piece of stuff, and military coats are much in fashion. In the higher districts above Stanley Pool the villagers wore hardly any covering, their black skins being often smeared with palm oil and occasionally dyed red or painted in a grotesque fashion.

The tattoo marks of the Babwendes form a lozenge shape on the forehead, those of the Batékes are arranged in lines on both cheeks and on the breast. It has been remarked by a recent writer (Dr. Chavanne) that tattooing is regarded by the natives as a protection against their fetish or evil spirit. They have a great love of ornaments, brass rings worn on the arms and legs being most common. Some of these rings are very heavy, and I have seen women so heavily weighted with leg rings as to be hardly able to walk. I remember a queen of the Wavunias with a brass collar round her neck weighing from 16 to 20 lbs., and compelling her every now and then to lie down and rest, these ornaments being permanently fixed on, so that the expression "*Il faut souffrir pour être belle*" applies among African women as well as among their European sisters. I do not know whether they are taken off after death. Beads are much prized by this people, so much so as to be the currency in some parts of the country. Strings of beads form the only dress of girls and infants, the colours varying in different districts. Earrings are always worn, and among men the custom of piercing the cartilage of the nose and inserting a piece of bone is common. But one of the most striking peculiarities is the mode of dressing the hair in large chignons standing out from the head and well oiled.

Their diet is chiefly a vegetable one—the cassava or manioc being the staple food. They also eat bananas and other fruits. The men file the front teeth to a point which adds considerably to

their savage appearance. Their voices are rough and uncontrolled, and are singularly harsh and unpleasing to the ear. Their arms are long in proportion to their bodies, enabling them to climb the tall stems of the palms like apes. It is curious to watch the way in which they collect the palm wine or maláfú. A wyth is passed round the tree and the body of the man, the ends being tied in a knot. Placing his feet against the tree and supported by the wyth the man ascends with remarkable ease and celerity to where the gourds are fastened, some 20 or 30 feet above the ground, when he pours the contents of the gourd into another taken up with him for that purpose and descends in the same agile way.

The religion of the people of the Congo is a low fetishism accompanied by all kinds of superstitions, and amongst others ancestral worship. On the graves of their chiefs are placed bits of broken pottery and little figures rudely carved, and it is customary to bury with the chief the cloth acquired by him during his life. In Bonny, on the Niger, I saw the "juju" house, with its rows of skulls and other sacrificial offerings, but this was reported to be no longer used as a place of worship, and the priest had ceased to officiate at Old Kálábá (Calabar), the juju house had been destroyed through the influence of the missionaries, though fetishism was said to be secretly practised and the bodies of human victims offered up in sacrifice frequently floated down the river. The barbarous superstition which led to the extermination of twins had also been stopped by the efforts of the same missionaries. But these and many other barbarities are said to be practised on the Upper Congo to this day. Nor have the natives on the lower river advanced much in civilisation. Commerce has indeed taught them to value the white man's fire-water, his guns, his cloth, and his baubles; they are to some extent restrained by the fear of their mysterious visitor, but they cannot understand his motives for living among them, nor can they appreciate the advantages they may derive from his presence. It will take generations of patient missionaries wholly devoted to the task to open a brighter future to the black races of the Congo.

Major-General Sir FREDERIC GOLDSMID, referring to the implements and weapons of war, musical instruments, articles of wearing apparel, tusks and hides of animals, and other specimens from the Congo, or West Coast of Africa, exhibited by him that evening, stated that they had been, for the greater part, received by him since his return to England in 1883, from Dr. Ralph Leslie, who, together with Mr. Delmar Morgan, had accompanied him on his expedition in that year. These gentlemen had, however, remained in Africa when he himself had been compelled, through ill-health, to embark for Europe. As a rule, a ticket was attached to each specimen, explanatory of its purpose. Sir Frederic Goldsmid addressed a question to Mr. Phillips as to the longevity of the natives of the Lower Congo. He himself had been struck by the few old people he had seen there. Indeed, he had felt that he was not only old enough to be father of most people he met, but in many

instances the grandfather. It might have been morbid sensitiveness on his part, but he believed that few people in those regions did attain old age, and the fact, if such it were, seemed sufficiently important for record, in reference to climate, mode of life, &c.

The AUTHOR, in reply to Sir F. Goldsmid, said that the natives of the Congo seldom attain a great age, but he could not definitely say why. In answer to another inquiry he stated that combs, of which one was exhibited, were not worn as ornaments, but were used for combing the hair by both men and women. The use of a "medicine-bag" seemed a mystery, until he explained that it was to be worn round the arm as a charm.

NOVEMBER 22ND, 1887.

Prof. FLOWER, C.B., F.R.S., *Vice-President, in the Chair.*

The Minutes of the last meeting were read and signed.

The election of Miss HUDSON, of 71, Lancaster Gate, W., was announced.

The following presents received since the last meeting were announced, and thanks voted to the respective donors:—

FOR THE LIBRARY.

From A. W. FRANKS, Esq., M.A., F.R.S.—British Museum; Statement of the progress and acquisitions made in the Department of British and Mediæval Antiquities and Ethnography in the year 1886.

From the SUPERINTENDENT, GOVERNMENT CENTRAL MUSEUM, MADRAS.—Administration Report for the year 1886–87.

From the GOVERNMENT OF NEW ZEALAND.—Results of a Census of the Colony of New Zealand, taken for the night of the 28th March, 1886.

From the SOCIETY OF ANTIQUARIES.—Archæologia. Vol. L.

From the ESSEX FIELD CLUB.—The Essex Naturalist. No. 10.

From the ACADEMY.—Kongl. Vitterhets Historie och Antiquitets Akademiens Månadsblad. Nr. 169–171.

From the INSTITUTE.—Proceedings of the Canadian Institute. No. 148.

From the UNIVERSITY.—Mittheilungen aus der Medicinischen. Facultät der Kaiserlich-Japanischen Universität. Band I, No. 1.

—Journal of the College of Science, Imperial University, Japan. Vol. I, Part 3.

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- From the SOCIETY.—Journal of the Society of Arts. Nos. 1825, 1826.
 — Proceedings of the Philosophical Society of Glasgow. Vol. xviii, 1886-87.
 — Transactions of the Asiatic Society of Japan. Vol. xv, Part 2.
 From the EDITOR.—Nature. Nos. 941, 942.
 — Science. Nos. 248, 249.
 — Photographic Times. Nos. 320, 321.
 — Revue d'Anthropologie, 1887. No. 6.
 — L'Homme, 1887. Nos. 19, 20.

The following paper was read by the author:—

The ORIGIN and PRIMITIVE SEAT of the ARYANS.

By CANON ISAAC TAYLOR, LL.D., Litt.D.

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THERE is no problem connected with anthropology, as to which in recent years, scientific opinion has undergone such a revolution as the question as to the region in which the Aryan race originated.

At the Manchester meeting of the British Association the theory was advocated by myself and Prof. Sayce, which five years ago would have been universally scouted, and yet it was received with general assent.

Within the present century no less than four theories successively have held the field.

Only thirty-five years ago when I went in for my "little go" at

[¹ It should be explained that the author, having been abroad while this paper was passing through the press, has not had an opportunity of revising the proof.—ED.]

Cambridge, the worthy Examiner before whom it was my lot to go up for my *vivâ voce* examination shared the then common belief, that the present inhabitants of Asia were descended from Shem, those of Africa from Ham, and those of Europe from Japhet; the linguistic and ethnic diversities between Europeans, Africans, and Asiatics having arisen on the plains of Shinar, in the year 2247 B.C., as calculated by Archbishop Ussher.

This opinion, which at all events possesses the charm of definiteness, was succeeded by the Caucasian hypothesis of Cuvier, Blumenbach, and Peschel, which traced the Indo-European race to Mount Ararat or the Caucasus, rather than to the Tower of Babel, forgetful of the fact that mountain fastnesses are not the cradles of races, but camps of refuge for the remnants of shattered tribes, and that the cradles of races are great plains, rivers, and valleys.

The Caucasian hypothesis was replaced by the Central Asian theory, which has held its ground almost to this day.

It was advocated by Prof. Sayce in his "Principles of Philology," published in 1874, and also in his "Introduction to the Science of Language," published in 1880, and was only surrendered in the third edition of that book, published in 1885, in favour of that which I am about to place before you. I cannot be far wrong in assuming that it is probably held by some of those present in this room.

I cannot do better than state this theory in the words of one who has done more than any other man to secure its acceptance in this country.

Prof. Max Müller states his opinion that "before the ancestors of the Indians and Iranians started for the South, and the leaders of the Greek, Roman, Celtic, Teutonic, and Slavonic colonies marched towards the shores of Europe, there was a small clan of Aryans settled probably on the highest elevation of Central Asia, speaking a language not yet Sanskrit or Greek or German, but containing the dialectical germs of all." (Max Müller's "Lectures," vol. I, p. 212).

The spot where this small clan lived was, he thinks, "as far east as the western slopes of the Belurtag and Mustag, near the sources of the Oxus and Jaxartes, the highest elevation of Central Asia." (Max Müller's "Lectures," vol. I, 239).

This theory was stated by Prof. Sayce in his "Principles of Philology," nearly in the same words. "When the Aryan languages first make their appearance, it is in the highlands of middle Asia between the sources of the Oxus and Jaxartes." (Sayce, "Principles," p. 101).

The only real ground for this opinion, was the belief that Zend and Sanskrit were nearer than any other languages to the

primitive Aryan speech; but now that this opinion has yielded to further investigation, the deduction based upon it falls also to the ground.

The theory, however, has had the support of the greatest names in the last generation of scholars. It was held by Lassen, Bopp, Pott, Jacob Grimm, and Prichard, and is still held by Max Müller, so no wonder, with such support, it met with almost unquestioning acceptance.

A solitary protest was raised by Dr. Latham, who as early as 1862, urged that it was a mere assumption, destitute of any shadow of proof, and without even a presumption in its favour. He vainly challenged the production of any evidence in its support; but his voice was *vox clamantis in eremo*—he was set down as an eccentric dreamer.

But at last the tide of reaction set in. Benfey in 1868 followed Latham with the philological argument that the undivided Aryans knew nothing of the palm or the tiger, but were acquainted with the birch and the beech, the bear and the wolf, which point to the temperate zone of climate, and more especially to Northern Europe as their primitive home. The beech especially, is a lover of chalk soils, which I believe, are not found westward of a line drawn from the Black Sea to the Baltic.

In 1871 Geiger followed with the further argument that they also were acquainted with the oak,¹ and also with the characteristic northern cereals, barley and rye, but not with wheat, a more southern grain, and that they must have originated in some northern region, as they had common names for snow and ice, for winter and spring, but not for summer and autumn. Their summer, therefore, must have been short, and their winter long. He also followed Latham in the assertion that no solid argument had yet been advanced in favour of the then accepted hypothesis of an eastern origin.

Fick, followed and corrected by Prof. Wilkins, has also shown that the primitive Aryan region was overgrown not only by the oak, the beech, the elm, and the birch, but also by the *fir* (*puka*), the primitive name of which was transferred in India to the betel nut palm.² To the fauna known by the primitive Aryans he added the wolf, the stag, the elk, the hedgehog, the goose, the thrush, the crane, the starling, the salmon, the eel, the wasp, and the bug. The cogency of the

¹ The common name for the acorn is *galandi*, "that which falls," and from this are derived in lands where there are no oaks the word for the testicles—*glands*.

² Proto-Aryan, *puka*; Greek, *πεύκη*; Lithuanian, *pusz-ies*; Old High German, *fuk-ta*; German, *fich-te*; English, *fir*; and Sanskrit, *pūga*, the betel nut palm.

argument depending on these names does not rest on their being common to the eastern and western Aryans, but on their use by the European Aryans. It is impossible to suppose that ancestors of the Kelts and the Slaves migrated from Central Asia to Europe, and acquired these common words in Europe after their separation from the Iranians and Indians, but before their separation from each other. The separation of Kelts and Slaves must date from a more remote period than the separation of Slaves and Iranians.

The undivided Aryan race must have lived near a sea, where the lobster, the seal and the oyster were found, and they possessed some kind of boats or ships. They also had wheeled carriages, implying that they came not from a mountainous region, but from a plain, an inference confirmed by the conclusion, which however, Prof. Wilkins doubts, that they had invented some rude kind of plough.

These conditions limit us, in seeking for the cradle of the Aryan race, to some well-wooded northern plain near the sea, and west of a line from Riga or Königsberg to the Black Sea; or if we include in the primitive Aryan fauna the eel, the salmon, and the oyster, we shall have to place them as far west as the Elbe.

A northern origin seems then to be certain, but why not bring them from Northern Asia instead of Northern Europe?

The answer is that the Aryan words common to the whole race, such as the elm, the oak, and the beech point to the fauna and flora of Europe, and not of Asia—certainly not of Central Asia; while an additional argument is that, as far as we know, there are no Aryans there, or ever have been. The neighbourhood of Lake Balkash, suggested by Piétrement, has always been the home of Mongolian races.

Writers of the new school incline with singular unanimity to a belief in the European origin of the Aryans. Peschel thinks the primitive seat of the Aryans was somewhere in the neighbourhood of the Caucasus; Benfey places it in the plain of the Volga; Friedrich Müller inclines to the south-east of Europe; Geiger to central and western Germany; Cuno and Pösche to the central plain of Europe; Latham to Podolia or Volhynia, south-east of the Lithuanians. In support of this view Dr. Latham urges that since Lithuanian is the nearest congener of Sanskrit, the original seat of Sanskrit must have been in approximate contact with Lithuanian; that Lithuanian is immobile—the Lithuanians being apparently the survival of a great people once stretching far to south of its present limits—as far indeed as the Danube, if, as seems probable, the ancient Dacian was a language of the Lithuanic class—while Sanskrit, in India,

is intrusive, since at some time it must have been united with Iranian, somewhere in the Bactrian region. Hence it would appear that the united Hindu-Iranian people were a nomad tribe which moved down the Volga from the Lithuanian region, and passed north of the Caspian up the Oxus, which then flowed into the Caspian.

Again, Latham urges that Lithuanian is closely related to Slavonic, its geographical neighbour, and Slavonic again is related to Teutonic.

It is more difficult to suppose that the Lithuanians, Slaves, and Germans migrated from the Oxus, than that the Hindus and Iranians migrated from the Volga to the valley of the Oxus.

It is more probable that the smaller class split off from the larger, than the larger from the smaller.

It is merely an assumption that the human race came from the east. The great antiquity of man in Europe is established. Virchow maintains that the Engis skull belongs to the Teutonic type, and proves the very early existence of a Teutonic race on the Meuse.

The migration of the Iranians is no more difficult than that of the Magyars, who are an intrusive tribe of nomads from Asia, having no congeners within 700 miles.

To bring the Lithuanians, Slaves, and Germans from Bactria, is as absurd as it would be to bring the Finns from Hungary.

The smaller body breaks off from the larger, which remains *in situ*.

The question remained practically in abeyance from 1871 to 1883, the European origin of the Aryans being held as a sort of pious opinion by half a dozen scholars who had devoted special attention to the subject, while the old Central Asian hypothesis still held its ground, with the practical acquiescence of the learned world. But in 1883 the question received a new impulse. In that year two remarkable books were published, Penka's *Origines Ariacæ*, a slashing, but somewhat too dogmatic work, and the cautious and more scholarly book of Dr. O. Schrader, entitled *Sprachvergleichung und Urgeschichte*. Dr. Schrader, as the result of an exhaustive investigation, comes to the final conclusion "that the European hypothesis, that is, that the origin of the Indo-European races is to be sought westward rather than eastward, appears to be far more (*weitaus*) in accordance with the facts."

These two books drew general attention to the subject, and induced Prof. Sayce in 1885 to surrender the Asiatic hypothesis which he had advocated in 1880, and his conversion was accompanied or followed by that of other students, my own I confess among the rest.

Dr. Schrader only commits himself to the general opinion that the migrations of the Aryans took place southward and eastward, rather than northward and westward, and in this I agree with him. Prof. Penka is much more definite, and he tries to fix the cradle of the Aryan race, not in Central Asia, but in the Scandinavian peninsula. For reasons which will presently appear, I do not think this opinion tenable; but this credit must be given to Penka, that it was his book followed by another, *Die Herkunft der Arier*, published in 1886, which demolished the old hypothesis, and that directed general attention to the subject which the more scholarly work of Schrader might have failed in effecting.

Schrader's book is philological, but Penka's argument is anthropological, rather than linguistic. He argues that most of the Aryan-speaking races are only Aryan by language, not by blood. The nations now speaking Aryan languages exhibit, he says, several distinct ethnological types. These are:—

1. The Scandinavian and North German type:—Dolichocephalic, tall, fair, with white skin, with a Grecian nose, straight and fine, blue eyes, blonde, golden or yellow hair, and abundant beard. This, he thinks, is the pure Aryan type.
2. The Mediterranean type of Italy and Spain:—Brachycephalic, short, dark, with black eyes, dark hair. This, he thinks, is Iberic, and ultimately Berber.
3. The Slavonic type:—Brachycephalic, with a short face, short stumpy nose, and little beard. This is the Turkotatar or Ugrie type. To this type belong the lower classes of Bavaria and Southern Germany, who are brachycephalic and dark, while the upper classes are dolichocephalic, tall, and fair.
4. The Kelts are largely mixed; some classes are tall and red haired, others short and dark.
5. The Iranians and Indians, originally tall and fair, but much altered by climatic influences.

It has to be determined which of these represents the pure primitive Aryan type.

Now there is no question that residence in a southern land, or a mixture of darker blood, tends to make a fair race darker; while the converse is not true; residence in high latitudes or a mixture of blue blood does not make a dark man fair.

The Jews and Portuguese in India have become almost black; the fair Goths of Spain, the Greeks, and the Hindus, have become darker than they were; whereas the polar races remain dark and short; a residence for countless generations in the north has not

given them the Aryan type. The Lapps, the Ostiaks, the Samoyedes, the Eskimo, the Red Men of the Canadian Dominion prove that a race may dwell innumerable centuries in northern climes without acquiring the fair hair, the blue eyes, the white skin, and the tall stature of the Scandinavians.

It is, therefore, more probable that a fair race should have become dark than that a dark race should have become fair. There is no instance known of a dark race having become fair, whereas there are many instances of fair races becoming dark. Race characters, where there is no change of climate or mixture of blood, are very permanent. The Egyptian and Assyrian monuments show that 5,000 years have not essentially changed the Semitic or Negro type.

But change of speech is more easy to effect than change of blood. Change of speech is the rule rather than the exception in case of conquest. The conquered readily acquire the speech of the conquerors, while the conquerors, being usually fewer in numbers, acquire the physical type of the more numerous conquered race. The exceptions are not numerous. The Normans in France and England, the Lombards in Italy, the Bulgars in Bulgaria, have lost their speech; but on the other hand, the Negroes in the United States and Jamaica speak English, in Haiti French, in Cuba, Spanish. In Peru and Mexico, the pure-blooded Aztecs and Peruvians speak Spanish. Asia Minor was Hellenized. Arabic now prevails in Syria and Egypt. Latin spread over Gaul and Spain. German has replaced Slavonic on the Elbe, Basque is retreating before French and Spanish, Bohemian before German, Finnish before Russian, Welsh and Gaelic before English. The superior people have a wonderful power of imposing its language on conquered or enslaved races, superior in mere numbers to themselves. Change of language is far easier and more frequent than the change of race type.

Following out the argument, we may conclude that the Lapps and the Samoyedes are probably an Eskimo race which has acquired a Finnic or Ugric speech. This is shown by their short stature and their dark skins and hair, while the Irish of Donegal and Kerry, and the Welsh of South Wales are probably, as shown by their short heads, short stature, and dark hair, an Iberian race which has acquired a Keltic speech, just as the Mahrattas are largely a Dravidian race which has learnt an Aryan speech. On such grounds Penka argues that the Russian Slaves are tribes mainly of Ugric blood, which have acquired an Aryan language, while the Mediterranean races are mainly of Iberian blood who have learned the Aryan speech of their pre-historic conquerors.

This argument is confirmed by the fact that the nobles in

these lands, who would be the descendants of the conquerors, are fairer and taller than the labouring classes, who represent the conquered race. This is conspicuously the case in Bavaria and Southern Germany, and also in France, Italy, Sicily, Spain, Greece, Scotland, and Ireland.

For these reasons it seems probable that the original Aryan people were fair and tall, and that the short, dark types of Southern and Eastern Europe are Aryans only in language and not in blood.

In addition to these *a priori* arguments, all the historical indications tend to show that the original Aryan conquerors of southern lands were taller and fairer than the races by whom they have been absorbed, who seem to have been of Iberian or Berber blood, and to have crossed from Africa in the time of the Dolmen stream.

Penka has collected from ancient authors many passages tending to prove that the Greek and Roman nobles had fair or auburn hair, blue or grey eyes, a white skin, and tall stature. It is thus that Homer pictures his gods and heroes, as in the cases of Minerva, Achilles, and Menelaus. The same is the case with the high caste Hindus, who represent the Aryan conquerors in the purest strain; they are taller and fairer than the lower castes. It was the same with the Persian nobles. The purest blood of the Hellenes is found among certain mountaineers of Crete, whose fair hair and blue eyes bear witness to their pure Dorian blood.

The Scythian tribes of Herodotus, who, according to Jacob Grimm, spoke an Aryan language intermediate between Iranian and Slavonic¹, seem to have shared the fair Aryan type. More especially the Budini of Herodotus, who dwelt north of the Black Sea, between the Don and the Volga, near Saratov, had blue eyes and reddish hair.²

The Ossetes of the Caucasus, who call themselves Iron (= Iranians), who are probably to be identified with the Massagetæ of Herodotus, and the Alani, who dwelt north of the Caspian, present the Aryan type. They are of blonde complexion, with blue eyes, and yellow or red hair.³

The Kurdish and Persian nobles frequently have blue eyes. The high caste Rajas of Rajputana are often fair.

The Seres, the eastern neighbours of the Scythians, are described by Pliny as a tall race with blue eyes and red hair.

Classical writers have noted again and again the resemblance in physical type of Kelts and Germans. They were distinguished

¹ Zeuss, "Die Deutschen," page 294 *et seq.*

² Bunbury, "Anc. Geog.," I, 193, 196.

³ Diefenbach, "Orig. Eur.," page 41.

by their great stature, their white skins, and their yellow or red hair.¹ Pliny, Cæsar, Diodorus, Strabo, Silius Italicus, Claudian, Livy, Virgil, and Ammianus Marcellinus describe the Gauls as very tall, with white skins, fair or golden hair, and blue or blue-grey eyes.²

Throughout Southern Europe, in parts of Wales and Ireland, the blood is probably Iberian, while an Aryan language has been acquired from Aryan conquerors. The same process has gone on in the north.

Though the Lapps are certainly not of Finnic blood, they speak what seems to be an archaic form of the Finnish speech of Finland, while the tongue of the Samoyedes approaches that of the Ostiaks and other eastern Finns, though they cannot be classed as either Finns or Ugrians by race.

We have another argument, not without weight, as to the probabilities of migration.

There is no assignable cause which can have induced a race, physically superior in stature and energy, inhabiting the warm, sunny, fertile lands of Southern Europe where all the conditions of life are easy, to migrate to the inhospitable regions of Northern Europe, with a poor sandy soil, and a long winter, in which the struggle for existence is so hard; whereas there was every inducement for the hardy and prolific races of the north to invade and conquer southern lands.

The tendency to move southward is exemplified by the irruption of the northern nations into the Roman Empire, vast hordes of Goths, Burgundians, Vandals, Lombards, Sueves, and Franks, marching from the Baltic region into the fertile lands of Italy, Gaul, and Spain, where the descendants of the fair-haired giants were gradually absorbed among the shorter and darker races of those lands.

Sidonius Apollinaris describes the gigantic Burgundians of Gaul as seven feet high, and that this is not merely a poetical licence is proved by the huge skeletons found in the Burgundian graves of the valley of the Rhone.

The causes of the physical superiority of the Aryans is easy to understand, if we derive them from Northern Europe.

Temperate Europe was the school in which men were trained for work, and became superior in physical and mental energy.

With the Polar races the struggle was too difficult, and they succumbed. It was only just possible to support life; there was no room for physical development or for superior culture.

In high latitudes labour is only possible in the short summer; in low latitudes only in the winter. In the temperate zone

¹ Diefenbach, "*Orig. Eur.*" page 198.

² *Ib.*, pages 161, 162.

alone labour is possible all the year round, and hence the inhabitants of temperate regions have ever been distinguished by greater energy and superior physical development.

In historical times the Baltic lands have been the hive from which the pure Aryans have swarmed, and analogy leads us to expect that the same was the case in pre-historic times. In these lands men are prolific, while the means of subsistence are limited. The power of expansion of the Scandinavian and North German races is shown not only by the swarms of Teutonic invaders who overwhelmed the Roman Empire, but by the streams of Swedish, German, Dutch, and English emigrants who are now colonising North America, Australia, New Zealand, and South Africa, and who hold in fee so many tropical and sub-tropical lands. We also see that in the south the type rapidly dies out, or is absorbed. In India there are no pure-blooded Englishmen of the third generation, whilst the Goths have left little of their blue blood in Spain, Gaul, or Italy.

Moreover Sweden and Denmark have been always Aryan; the pre-historic skulls, whether of the stone, the bronze, or the iron age, are uniform in type. About 10 per cent. of the pre-historic skulls are of the Lapp type, which may be explained as a result of slavery; the rest belong to the pure Aryan type, which exists at the present day.

The first definite conclusion at which we arrive is, that while Aryan languages are spoken by six ethnic types—Scandinavian, Slavonic, Mediterranean, Keltic, and Irano-Indian—the purest of all in blood is the Scandinavian or North German, and that the primitive Aryans were of this type—a northern race, tall and fair, with blonde complexion, light hair, and blue eyes, who conquered southern, eastern, and some western lands, where, though their northern blood has been absorbed and obscured by the more numerous races whom they conquered, they succeeded in imposing their language, as is so often the case with a small ruling class. Witness the spread of the Latin language, which followed the subjugation of Spain, Gaul, and Northern Africa by the Romans, or the spread of the Greek language over the Empire of Alexander, or the still more remarkable case of the Arabic which has everywhere followed the crescent, and has exterminated Latin in North Africa, Greek in Asia Minor, Coptic in Egypt, and which is now rapidly extending over Africa to within a few degrees of the Equator.

So far I think we may accept Penka's argument. But it is more difficult to follow him in his contention that Scandinavia was the cradle of the Aryan race. This seems rather to have been the great European plain south of the Baltic. In such a matter we cannot expect to attain to certainty, but the balance

of argument seems to lead to this conclusion. We have already seen that the linguistic evidence tends to show that the primitive Aryans inhabited some great plain, and not a mountainous region. It is difficult to understand how they can have crossed the Baltic in such vast numbers, while Scandinavia seems to afford neither the geographical space, nor the means of subsistence for their development. The tendency to albinism must also be explained, and the only physical explanation that has yet been advanced connects it with the poverty of colouring material in the barren sands of Northern Germany, and the western provinces of Russia. Here we find that the characteristics of the Aryan race has become so accentuated that the hair is almost devoid of pigment, it is nearly white, and the complexion is tallowy. We notice this tendency in some of the eastern counties of England, where the sandy soil is quite devoid of iron.

But the chief objection to Penka's Scandinavian theory is that it proves too much. It does not account for the origin of the Aryans, but rather assumes that the Aryans were always Aryans. *Ec nihilo nihil*. The Aryans must have had ancestors who were not Aryans. Who could those ancestors have been? Can we find any survivals or vestiges of this race?

My own opinion, arrived at independently, agrees with a conjecture which I find was put forth twenty years ago by two great scholars, Diefenbach and Weske—a conjecture which they did not attempt to substantiate by proof, because the materials for proof had not at that time been collected.

I believe that in the Finns of Finland, and the Esthonians and Liefs of Courland and Livonia, we discover, *in situ*, a people who can be shown, anthropologically and linguistically, to be the survivors of the race from which the Aryans were evolved.

When Diefenbach and Weske wrote, it was impossible to establish their conjecture. It was necessary to await the result of much patient labour in the analyses of the grammar and vocabulary of the Aryan and Turanian languages—a result which has now been achieved by Fick, Curtius, Schrader, Budenz, Donner, and Vambery, who have enabled us to reconstruct the elements of the original languages spoken 5,000 or 6,000 years ago by the ancestors, on the one hand of the Finns, and on the other of the Aryans.

The argument is two-fold—anthropologic and linguistic. I shall first endeavour to show that ethnologically the Finns proper are of the same ethnic type as the contiguous Aryans of Northern Europe. Penka, whose object is to prove that the Aryans are unique in physical type, endeavours in vain to

combat the conclusion of Virchow, that in all essential characteristics the Finns of Finland belong to the Aryan type.

He is driven to the argument that the marked Aryan characteristics of the Finns are due to an inter-mixture of Aryan blood, which is contrary to all probability, since language changes more readily than race; since with an inter-mixture of blood the dark, short race is prepotent, and the mixed race is dark; while it is most unlikely that the superior race should have been so numerous as to have imparted its physical character without also imparting its language.

Geiger also says that fair hair, white skin, and blue eyes are ethnic characteristics confined to the Aryan race, with the exception of the Finnic neighbours of the Aryans.¹ He, like Penka, accounts for the fact by an intermixture of Aryan blood. The Aryan type of the Finns is recognised fully by independent authorities who have no theory to support. Diefenbach states² that anthropologically the Finns belong to the Aryan type rather than to the Mongolic or Ugric. The European Finns he says, resemble the Aryans of Northern Europe. The Finns of Finland are fair and tall, with blue eyes. The Esthonians have blue eyes and yellow hair, and are dolichocephalic.

This was the case in early times. From the Edda we learn that the Scandinavians called their Finnic neighbours Jötuns, or giants, proving that they were of even taller stature than themselves. The same was the case with the Slaves, who also at a very early period found the Finns a taller race than themselves, as is evident from the fact that by all the Slavonic races the Finns are called Tschuds, a name derived from the Slavonic word *tsud*, a giant.³ Virchow, noting the light hair and blonde complexion of the Finns, has pointed out that the Finns are not, as was formerly thought, brachycephalic, but largely dolichocephalic. Of the Esthonians one-third are of the blonde dolichocephalic type, and two-thirds are mesocephalic, with light brown or darker hair. The cranial index of the Finns is 78.59; of the Tschuds, 83.37; of the Magyars, 82.2.

According to Diefenbach, as we go eastward the races speaking languages of the Finnic family diverge more and more from the Finnic type. The blonde hair becomes red, and the skin and eyes become darker. Thus while the Wotiaks, Mordwins, and Tscheremis have red hair more frequently than brown, and some Ostiaks have reddish hair, the Woguls and eastern Ostiaks are darker both in skin and hair.⁴ The Ostiaks on the Obi, Diefenbach thinks,⁵ though speaking a Finnic tongue,

¹ Penka, "Orig. Ar.," page 30.

² Diefenbach, "Orig. Europ.," page 213.

³ Ujfalvy, "Melanges," page 120.

⁴ Diefenbach, "Orig. Europ.," page 213.

⁵ *Ib.*, page 209.

cannot be considered as pure Finns, having probably an infusion of Samoyedic blood. But this is no difficulty, as the same phenomenon meets us among the Aryans, the type, as we proceed from Northern to Southern Europe changing from fair to dark, just as among the Finnic races it changes from yellow to red, and red to dark, as we go eastward.

Thus there is a gradual gradation in language and physical type, from the Finns, whose language is almost inflectional, and whose type is Aryan, to the Ostiaks whose language may be classed either as Finnic or Ugric, and then through the Ugric tribes to the Tschuwash, whose speech is midway between Ugric and Turkic. In like manner the Turkic tribes gradually approximate to the Mongolic. There is a similar gradation among the Aryans from the Lithuanians to the Germans, the English, the Kelts, and the Latins.

It is thus possible to pass from the Mongols to the Tatars, from the Tatars to the Ugrians, from the Ugrians to the Finns, from the Finns to the Teutons, and from the Teutons to the Kelts and the Latin races. Nowhere is there any great gulf, but rather an inclined plane of race and language.

But this does not affect the fact that the pure Finnic race in Finland and Esthonia is tall, fair, and blue-eyed, just as the pure Aryan race in Scandinavia and Northern Germany is also blue-eyed, tall, and fair.

We must remember that language is unstable, while the ethnic type remains constant. In Babylonia the type remains, though the language has changed from Accadian to Semitic, and from Semitic to Persian, Greek, and Arabic in turn. The same is the case in Asia Minor and Syria, where the ancestors of the present population have spoken Hittite, Aramean, Greek, and Arabic, while in Egypt Coptic has been replaced by Greek, and Greek by Arabic. In Southern Europe Sicily and Spain present similar phenomena.

It may be affirmed that, except the Finns, there is no race existing in the world from which the northern Aryans could have derived their unique physical characteristics; and that there is no language except the Finnic from which the Aryan speech could have been developed.

Either the characteristics of the Finns must have been derived from the Aryans, or the characteristics of the Aryans from the Finns. The first is the contention of Penka—the second is my own.

Language changes more readily than race, and if the Finns had received such an overwhelming infusion of Aryan blood as to change the type from dark to fair, from black eyes to blue, from short to tall, from brachycephalic to dolichocephalic, it is

strange indeed that the language of the higher race should not also have replaced the language of the lower race. Penka's contention, in short, amounts to this, that the Finns are really an Aryan race, who, in some way, have acquired a language of the Altaic type. This seems quite incredible, and it is far more reasonable to suppose that the Finns are rather the survival of the race from which the Aryans sprang, a survival due to their isolation in the inaccessible marshes of Finland, which, so far as we know, they have always inhabited.

But this Finnic race was once far more extensive. It has continually been encroached on, more especially by Slaves, who, though speaking an Aryan tongue, are themselves mainly of Finnic or Ugric blood. The process of assimilation is still rapidly proceeding. Castren thinks that in the time of Tacitus the Finns extended uninterruptedly from the Ural to the Baltic. He arrives at this conclusion from the evidence of Finnic place-names in Russia, and from the fact that in Nestor's time there were many Finns in parts of Russia from whence they have now disappeared.

That the region south of the White Sea, the land of the Biarmians, was once Finnic, has been proved by Ujfalvy from the evidence of place-names and from the numerous Finnic words incorporated into the Russian dialect of the department of Archangel.

The Esths still occupy the land of the Aestiae of Tacitus, who inhabited the amber land of the Baltic, and the Finns are believed by Zeuss to be the Fenni of Tacitus, and the Finnoi of Ptolemy.

According to Diefenbach the Finns once stretched far to the south in Europe, as well as to the north and east, having been pushed back, or more probably absorbed, by the Aryans, but they still range in almost unbroken order as far as the Finno-Ugric tribes of Asia.

This Finnic race, formerly so widely spread over Northern and Eastern Europe, exhibits in its highest development the same ethnic type as those Aryan races who seem to have the best title to represent the primitive Aryan type. At all events there is no other ethnic type from which the Aryans can so reasonably be derived. The Aryans must have sprung from some other race in an inferior linguistic and social stage. From what race? Plainly from a white race, a northern race, and a race whose language approaches their own. They could not have sprung from a Semitic stock. The type is altogether different. The Semites have an aquiline nose, black hair and eyes, and an oval face. Their language, though inflexional, is fundamentally different, and there can be little doubt that the Semites origi-

nated in Northern Arabia. The other great families of mankind, the Mongolic, the Turkic, the Negroid, the Berber, and the Egyptian, present equal or greater difficulties. The choice seems to lie between the Iberian and Finnic stocks, if, indeed, these were not fragments of the same family separated by intrusive Aryan peoples.

But if we accept the reasonings of Penka and others as to the primitive Aryan type, and Fick's reasoning as to the northern origin of the Aryans, we must give the preference to the Finnic rather than to the Iberic race, as the Aryan mother stock.

If this be so, if the Aryans are an improved race of Finns, then Finnic speech ought to exhibit signs of being the mother tongue from which the Aryan languages were developed; or, conversely, the Finnic ought to be a survival of the ruder holothentic speech from which the Aryan was developed.

Is this possible? Can the inflexional Aryan languages have arisen from the agglutinative Finnic speech?

This, I think, is possible. Prof Max Müller, who must be regarded as a hostile witness, since he believes that the Aryans originated in the highlands of Central Asia, observes, "we might almost doubt whether the grammar of this language (Finnic) had not left the agglutinative stage, and entered into the current of inflexion with Greek and Sanskrit."¹

Prof. Max Müller is plainly conscious that in the Finnic speech we find a point of closer linguistic approximation to the Aryan languages than can elsewhere be discovered. The approximation is still more evident if we compare two languages in geographical contact, the Esthonian, the most advanced of the Finnic languages, and the Lithuanian, the most backward of the Aryan.

The Lithuanian, the most archaic type of Aryan speech, is spoken in the Baltic provinces of Russia and in the adjacent regions of East Prussia. It has been much encroached upon, and has been supposed at one time to have extended as far as the Danube. It is now in geographical contact with the Esthonian. We find, therefore, side by side, still dwelling in their primitive seats, the Esths, the members of the Finnic family who are most advanced in civilisation, in physical type, and in language, and their western neighbours the Lithuanians, who speak the most archaic of all living Aryan languages.

In this region, therefore, if Aryan speech was developed out of Finnic speech, we may look for evidence of the transition between the Finnic and Aryan languages.

¹ Max Müller, "Lectures," I, page 319.

In what points should we expect to be able to trace this original linguistic identity, if it existed?

The separation must have been at so remote a date—at the least 5,000 years ago, probably much more—that we cannot expect to find any very evident traces of a common vocabulary. It is true that there is a large number of common words, but these, as Ahlquist has shown, cannot be taken into account since they are mostly *Kultur-wörten*, borrowed by the Finns at a time long subsequent to the separation, and they are moreover words denoting a higher stage of culture than was reached when the separation of the Aryan races took place. Such, for instance, as the words for lead and tin, for the anvil, agriculture, for ships, for woven garments, and, in all probability, for the horse. These are the same in Finnic and Aryan speech, but they cannot be taken into account as they are plainly loan words, and are only found among the western Finns, while their origin can be traced without difficulty to some contiguous form of Aryan speech, usually Scandinavian, Slavonic, or Lithuanian. But it is entirely different when we come to another class of words, those denoting the primary relations and necessities of existence, such as the words for father, mother, son, daughter, brother, sister, which are common to the European-Asiatic branches of the Finnic race. The same is the case with some of the numerals, and with some of the primary necessities of life, salt, shelter, food, the rudest tools, and two of the metals, gold and copper. But when we go still deeper, when we go back to the very oldest traces of linguistic affinity, then the relationship becomes more plain. When we analyse the verbal roots, the pronouns, the structure, the formatives, and the fundamental conceptions of grammar, then the linguistic resemblance—I may almost say the linguistic identity—comes out with startling plainness. Borrowing is here out of the question, because the resemblance is so deep-seated; it is a resemblance not of words, but of roots, of grammatical structure, of pronouns, of demonstratives and relatives, and of formative suffixes. That not only the verbal roots and stems, but that the pronominal suffixes of the first, second, and third persons of the verb should be ultimately the same, that the formation of the nominative, genitive, and accusative should be analogous, argues, not borrowing, but a primitive unity.

This cannot be affirmed of the Aryan and any other family of speech. There is no such fundamental community as to the first elements of speech between the Aryans and any other race, Semitic, African, or Turkic. The Finnic language is the bridge between the languages of Asia and Europe. In their structure they hold on, with one hand, to the Ugrie, Turkic,

and Mongolic, less advanced than themselves; while with the other hand they grasp the more Aryan languages. We have the connecting link between the speech of Northern Asia and of Northern Europe. In the Baltic provinces we find a common point of contact between languages so diverse as Turkish and Teutonic. The vowel harmony and the relics of agglutination link them with the Turkic tongues; the inflectional grammar, the formatives and the roots link them with the Aryan languages.

The only assignable argument for the now exploded theory which places the primitive Aryan home in the highlands of Central Asia was the supposition, now shown to be erroneous, that Sanskrit presents us with the most archaic type of Aryan speech. This belief is now generally surrendered in favour of that advocated by Pöschke and others, that the Lithuanian rather than Sanskrit, comes nearest to the Aryan *Ursprache*. If this is the case, as is now generally admitted, all the arguments which brought the primitive Aryans from the head waters of the Oxus, where the Iranian and Sanskrit peoples separated from each other, become arguments for placing the original Aryan home in proximity to the region now occupied by the Lithuanians.

In comparing Finnic and Aryan grammar I will first give an outline of the results set forth in a remarkable paper by Weske, *Ueber die historische Entwicklung der finnischen Sprachen in Vergleich mit der der Indo-germanischen*.

The chief difference, he observes, between Turanian and Aryan speech is that the one is agglutinative while the other is inflexional.

The Finnic is the most advanced of the agglutinative Turanian languages. Though connected with them by the roots, grammar, and formatives, yet the suffixes are almost as firmly united to the roots in Finnic as in Lithuanian or Sanskrit. The structure of the Finnic languages cannot, on the one hand, be divided by a sharp line from Turkic, or on the other by a sharp line from Aryan. Finnic is the link which unites them both.

We may take Sanskrit and Lithuanian as two of the more archaic Aryan languages and compare the method of word-building from the verbal root with the same process in Suomi and Esthonian, two of the most advanced Finnic tongues. The formative *ma* is employed in Aryan and Finnic with the same signification. In Finnic, combined with the verbal root *san*, to say, it gives *san-o-ma*, a message; with the root *juo*, to drink, it gives *juo-ma*, drink; with *tek*, to do, it gives *tek-e-ma*, a deed. In Aryan languages the combinations are identical; in Sanskrit, from the verbal root *ghar*, to burn, we have *ghar-ma*, warmth,

from *dhu*, to move, we have *dhu-ma*, smoke; in Lithuanian from *vaz*, to carry, we have *vaz-ma*, carriage, from *aud*, to weave, we have *aud-i-ma*, a web, and in Latin from *fa*, to say, we have *fa-ma*, a report.

Here the same suffix is seen to be bound as tightly to the verbal in Finnic as in Aryan, the method of formation is identical, and the suffix is common to both. The comparison might be extended to other formative suffixes which are employed both in Aryan and Finnic languages, such for instance as *na*, *ja*, *va*, *la*, *ka*, and *ta*. Thus, to take an instance or two, we have in Finnic the formative *na*, which combined with the verbal root *koh*, to drink, gives *koh-i-na*, drunken; while this suffix combined with the verbal root *svap*, to sleep, gives in Sanskrit *svap-na*, sleep, and in Lithuanian *sap-na*, sleep. Or take the formative *ja*, which in Finnic from *lug*, to read, gives *lug-e-ja*, a reader, and in Lithuanian from *sta*, to stand, gives *sta-ja*, a position, or place.

We may next examine the pronominal suffixes which are suffixed to the verbal roots for the conjugation of the verb. Prof. Donner has shown that in Finnic, the primitive pronominal suffixes were *ma* for the first person, *ta* for the second, and *sa* for the third. Now *ma* is the pronoun "I" or "me," both in Aryan and Finnic languages, and thus an Estonian who says *ma*, I, is speaking Aryan as well as Finnic. In modern Aryan languages, as well as in Finnic, this suffix has sometimes become *-m* or *-n*, or has even disappeared altogether. Let us now compare the conjugation in Aryan and Finnic languages. From the Sanskrit verbal root *vah*, to carry (cf. Latin, *veho*), we have *vah-a-mi*, I carry; and from *bhar*, to bear, we have *a-bhar-am*, I bore (cf. Greek, ἄ-στη-μι and ἔ-φερ-ον). In Lithuanian we have *es-mi*, I am, in Old High German *tuo-m*, I do, and *ga-m*, I go, which in New High German have become *thu-e* and *geh-e*. In Finnic the same suffix *ma* has undergone the same changes. Thus in Tscheremis "I come" is *tola-m*, in Suomi *tule-n*, in Estonian *tul-e*. "I live" is *äle-m* in Lapp, *ale-n* in Suomi, *el-ä* in Estonian.

So, also, with the pronominal suffix of the second person. In Suomi we have *tule-t*, thou comest, the *t* being derived from the pronoun *ta*, thou, just as in Aryan languages the suffix *s* is derived from *tva*, thou, as in the Sanskrit *bhāra-si*, thou bearest.

The plural pronominal suffixes differ somewhat in Aryan and Finnic, owing, as will hereafter be shown, to the plural having originated after the separation of the Aryan from the Finnic races, but the identity of the plural and pronominal signs is curious. In Finnic, the plural pronominal suffix of the first person is *m-me*, as *tule-m-me*, we come. The first *m* arose out of

n, due to the disappearance, as Budenz holds, of *t*, the plural sign. In Aryan the suffix of the first person plural is *ma-s* (= *ma-si*), compounded of *ma*, I, and the plural suffix. In Finnic the suffix of the second person plural is *t-te* (as in *tule-t-te*, ye come), compounded of the plural suffix *t* as before, and *ta* thou. In Aryan the suffix was originally *ta-si* from *ta*, and the plural suffix. We see the Finnic plural suffix *t* which was probably the archaic form of the Aryan plural suffix *s*. It will be noted that the order of the signs of the plural and the pronoun is different in Aryan and Finnic. They were independently formed, after the separation of the races, but the materials out of which they were formed were identical.

It is the same with the declension of the noun. The case signs in Finnic arose out of suffixed prepositions as in Aryan languages. We have the ablative in *-t*, the genitive in *-n*, and the accusative in *-m*. Thus in Tscheremis we have the accusative *vida-m*, water, from the stem *vid-a*, water, and in Sanskrit *pati-m*, master, from the stem *pati*.

In Aryan, as in Finnic, there are internal vowel changes in the stems as in Finnic, but these, probably, may date from a later period.

I feel bound to give full prominence to the two strongest arguments against the primitive identity of the Finnic and Aryan tongues, arguments that to many will, perhaps, seem conclusive against my contention.

These arguments are morphological, and seem to go down to the very foundations of grammar.

They are, first, that the Finnic languages, like the rest of the Turanian class, possess no gender; and, secondly, that the sign of the plural is inserted between the stem and the pronominal or postpositional suffixes, instead of after them, as in Aryan languages. This is also the case with Georgian, where *bi* or *ni*, the plural sign, is inserted between the root and the case endings.

I am inclined to believe that these two peculiarities of Finnic grammar, instead of being fatal to my proposition, afford a very curious confirmation of some speculations of Prof. Sayce, as to the earliest form of Aryan speech, and, therefore, if his speculations be sound, they afford a remarkable confirmation of my theory. Not only has gender been lost in two Aryan languages, English and Persian, but Prof. Sayce considers that gender did not exist in the primitive Aryan speech, in which case its absence from Finnic is only an additional proof that Aryan was derived from Finnic. In his article on grammar in the "Encyclopædia Britannica," Prof. Sayce observes that "Gender is the product partly of analogy, and partly of phonetic decay."

"There are many indications," he continues, "that the parent Aryan, at an early stage of its existence, had no signs of gender at all." "The terminations of father and mother, *pater* and *mater* for example, are exactly the same." "Feminines like *humus* and *ὁδος*, or masculines like *advena* and *πολίτης*, show there was a time when these stems indicated no particular gender, but owed their subsequent adaption, the one to mark the masculine, and the other to mark the feminine, to the influence of analogy." If this reasoning is correct, and I confess I do not see any flaw, we should expect to find the parent Aryan genderless like the Finnic.

If Prof. Sayce is right, the very fact that Finnic is without gender, is one reason the more why we may look to Finnic as the parent of Aryan speech.

The same reasoning holds as to the difference in the formation of the plural. Prof. Sayce considers that in the primitive Aryan speech there was no plural, but only the singular and the dual. Now, though the plural is differently formed from the same elements in Aryan and Finnic, the dual is formed in precisely the same way. Hence I take the different formation of the Aryan and Finnic plural to be a sign of primitive unity. Prof. Sayce says¹: "We might think the roots of the plural go down to the beginnings of language, but it is not so." He thinks this is proved by the existence of the dual, which would have been needless if the plural had been in existence, as we see by the fact that the existence of the plural has caused the dual to be dropped. "The dual," he says,² "was older than the plural, and after the development of the latter, survived only as a useless encumbrance, which most of the Aryan languages contrived to get rid of." The same was the case with the Finnic languages, which originally had a dual, as proved by its existence in Ostiak, Lapp, and Samoyed, but the more cultured languages have got rid of it. Now, the curious point is that, though the Aryan and Finnic languages differ fundamentally in the formation of the plural, they agree precisely as to the formation of the dual.

The Aryan dual is believed to have been formed by two suffixed pronouns, *as-ma* (= I + he) being equivalent to "we two," and *tas-ma* (= thou + he) = ye two. In like manner Pott considered the Samoyed dual was originally equivalent to I + he, and the same holds probably of Ostiak and Lapp. The dual suffix in Finnic follows the case ending and pronominal suffix as in the Aryan languages.

¹ Sayce, "Principles," page 258.

² "Encyclopædia Britannica," article Grammar.

In the Finnic languages the dual is formed like the Aryan dual. The case ending comes first, and the sign for the dual after it.

But the Aryan and Finnic languages must have separated when they were in the stage which Prof. Sayce assigns to the oldest Aryan speech, that is, when they possessed only a singular and a dual.

In both the plural was a subsequent formation, and was formed in Aryan on the model of the dual, either by the addition of a plural suffix, or as some grammarians hold, by an intensification of the dual, while in Finnic it was formed by a plural suffix *t* inserted before the pronominal suffix. The singular and plural were regarded as independent words, and the suffixes were tacked on, just as in English we tack on the sign of the genitive in such words as *man* and *men*, *e.g.*, "the man's boots," and "the men's boots," a formation which corresponds exactly to the formation in the Finnic languages.

I maintain, therefore, that the two chief fundamental differences between Aryan and Finnic grammar, namely, gender and the plural, instead of being proofs of primitive diversity, are, in the light of the most recent speculations, convincing proofs of primitive unity, and also that Finnic grammar is able to cast unexpected light on the primitive grammar of the holo-ethnic Aryan race.

The grammar of such a Turanian language as the Turkish seems to have no points of agreement with the grammar of the more advanced Aryan languages, such as Persian or English, but the grammar of the more advanced Finnic languages, such as Suomi or Esthonian is not far removed from that of the more archaic Aryan languages such as Sanskrit or Lithuanian, and hence the Finnic forms the link between Aryan and Turanian speech. We find a gradual progression from Buriat through Yakut and Uigur to the Tschuwash, which are all languages of the Turko-Tatar class. The Tschuwash is not very far removed from the Ugric branch of the Finnic tongues, so that through Magyar, Ostiak, Wogul, and Mordwin, we reach the Suomi and Esthonian, through which we get the transition to Lithuanian and Sanskrit, which are inseparable from the Keltic, Latin, Greek, Slavonic, and Teutonic tongues. Just as the Finnic is a development of the Turkic, so the Aryan is a development of the Finnic *Ursprache*.

Twenty years ago when Weske pointed out the grammatical analogies between Finnic and Aryan, he refrained from affirming that they point to a single primitive *Ursprache*, because at that time the primitive verbal roots of the Finnic language had not been determined. This, however, has now been done by

Budenz, Donner, and Vambery, and we can carry Weske's argument a step further, and show not only that the grammar is fundamentally identical, but the primitive roots, the *Stoff* out of which the vocabularies have been manufactured, is the same.

To demonstrate this proposition would require a volume. I will take one leaf only out of the book, as a sample of the rest. It will be better to examine thoroughly a small portion of the domain, than to scamper over the whole ground. Lest I should unconsciously pick my evidence, I will take a few roots in consecutive alphabetical order. Prof. Skeat, in his "Etymological Dictionary," has given a list of 461 primitive Aryan roots, mainly from Fick. Of these I have taken the 18 triliteral roots in *k*, Nos. 41-58, and have compared them with the Finnic *k*-stems in Donner's *Vergleichendes Wörterbuch der Finnische Sprachen*, Nos. 1-338.

I have taken the triliteral roots because the biliteral roots are too general and vague, and the quadriliteral too modern, having largely been developed after the separation of the Aryans and Finns. They are properly stems rather than roots.

The resemblance, nay, the identity is most surprising. Every one of these 18 triliteral Aryan roots in *k* is also found in Finnic with the same meaning. It is perfectly impossible that the resemblance in so many cases can be accidental. And they cannot be loan words, as they extend to the Asiatic languages of the Finnic class, as well as the European languages which are in contact with Aryan languages. They belong, therefore, to the Finnic *Ursprache*.

Comparison of Verbal Roots in Aryan and Finnic.

ARYAN ROOTS.

1. √KAK, to cackle, laugh, make a noise (Skeat, No. 41).
Hence *cackle*, *cock*.

2. √KAK (= *hag*) to gird, surround (Skeat, No. 42).

Hence *hook*, *haken*, *hedge*; German *hals*.

2A. √KAK, to excrete (Fick).

Hence Latin *cacare*; Greek *κακῆ*; Irish *cace*, excrement.

3. √KAK, to waver, hesitate, be in doubt (Skeat, No. 43).

Hence Latin *cuncor*; Sanskrit *canc*, to hesitate.

4. √KAT (= *hath*), to cover, protect (Skeat, No. 44).

Hence *hat*, *heed*, *hut*.

FINNIC ROOTS.

1. √KAK, to cackle, make a noise (Donner, Nos. 20-25).

Hence Finnic *kaik-la*, to sound, *kaj-an*, to sound, *kuk-kua*, to cackle, *kuk*, a cock, *gag-o*, a stork.

2. √KAK, to bend round (Donner, Nos. 2-13).

Hence Finnic *kok*, a hook, *kak-la*, neck.

2A. √KAK, to excrete (Donner, No. 24).

Hence Finnic *kak-ka*, excrement.

3. √KAC, to observe, look at (Donner, Nos. 69, 70.)

Hence Finnic *kac-on*, to prove, try, look at.

4. √KAT (= *kant*), to cover (Donner, Nos. 33-34).

Hence Finnic *kat-to*, a roof, *kot-a*, a house; Magyar *haz*, a house (?).

ARYAN ROOTS.

5. ✓KAD (=hat), to fall, go away (Skeat, No. 44 a).

Hence *cadence*; Latin *cado*.

6. ✓KAD (=hat), to fell, throw down (Skeat, No. 44 β).

Hence Sanskrit *cat-aya*, to throw down; English *hunt*, *hand*.

7. ✓KAN, to sing, to ring (Skeat, No. 46).

Hence Latin *cano*, *gemo*.

8. ✓KAP (=haf), to contain, hold, seize, grasp (Skeat, No. 47).

Hence Sanskrit *cap-ala*, shell, skull; Greek κίφ-αλή; Latin *cap-ut*; English *cup*; Latin *cap-io*; English *capacious*.

9. ✓KAP (=kamp), to move to and fro, vibrate, bend (Skeat, No. 48).

Hence Greek κόπτω; Keltic *cam*, bent.

10. ✓KAM (=ham), to bend (Skeat, No. 49).

Hence *camera*, *chamber*, *ham*, *combe*, *hump*, *kink*; Lithuanian *kampas*; crooked; Greek καμπή.

11. ✓KAM, to love (Skeat, No. 50).

Hence Latin *amo*; English *home*.

12. ✓KAR, to make work, do (Skeat, No. 51, Fick III, p. 521).

Hence *carve*, *create*, *ceremony*, *autocrat*.

13. ✓KAR (=har), to hurt, destroy (Skeat, No. 54).

Hence Latin *gladius*; English *harry*.

(The Finnic shows that this is the same as No. 12).

14. ✓KAR or KAL (=har) to move, run, speed (Skeat, No. 52).

Hence *cel-er*, *car-riage*, *hor-se*, *cur-ro*, *cor-acle*.

15. ✓KAR (=hal), to project, stand up (Skeat, No. 53).

Hence Latin *collis*, *culmen*, *cul-mus*, *celsus*; English *haulm*, *holm*.

16. ✓KAR (=har), to be hard or rough (Skeat, No. 55).

Hence Greek κίρα-α, a horn, *κακρω*, a crab; Latin *cor-nu*; English *horn*, *hart*.

FINNIC ROOTS.

5. ✓KAT, to fall (Donner, No. 47).
Hence Finnic *kat-a*, to fall down.

6. ✓KAT, to seize (Donner, Nos. 50, 51, 61-64).

Hence Finnic *kat-e*, hand; Ostiak, *katt-em*, to seize; Finnic *kat-ken*, to break off; Tschermis *kat*, to tear off.

7. ✓KAM, to resound, to ring (Donner, Nos. 321-331).

Hence Finnic *kim-ea*, sounding, *kum-ea*, resonant; Permian, *gim*, thunder.

8. ✓KAP, to seize, hold, contain (Donner, Nos. 273, 279, 281).

Hence Finnic *kap-ia*, to snatch, *kap-an*, to seize, *kop-el*, to excavate, *kuppi*, a cup, *kap-io*, a helmet, *kop-aska*, skull, *kop-pa*, forehead.

9. ✓KAP, to hasten, knock, bend (Donner, Nos. 265-286).

Hence Finnic *kap-un*, to hasten forward, *kap-utun*, to knock, *kap*, bent.

10. ✓KAM, to bend (Donner, Nos. 308, 320, 15-18).

Hence Finnic *kam-ma*, a sleeping room, *kum-pu*, a small hill in a marsh, *kank*, bent, *kampura*, crooked.

11. ✓KAM, to love (Donner, No. 351).

Hence Finnic *heimo*, family race, *aim*, home, domestics, *håmo*, relations; Wogul *kant*, family; Mongol, *aim-ak*, family.

12. ✓KAR, to work, cut (Donner, No. 161).

Hence Finnic *ker-an*, to hew, punish; Syrianian *kar-ny*, to make, *kur-as*, a knife, *kar-at*, a plough, *kur-at*, the evil spirit.

13. ✓KAR, to injure (Donner, Nos. 161, 186, 189).

Hence *kar*, sharp, *kur-i*, punishment, *kur-at*, the evil spirit, *kar-sin*, to suffer, *kor-set*, to injure, *kar-was*, herb, bitter.

14. ✓KAR, to run (Donner, Nos. 133, 216, 217).

Hence Finnic *kar-en*, to run, jump, *ker-ap*, a carriage, *kar-bes*, a boat. Cf. ✓KAL, to flow, to go. Hence Turkic *gel*, a river; Mongol *gol*, a river.

15. ✓KAL (=kul) to stand up, to project (Donner, Nos. 221, 222).

Hence Finnic *kol-lo*, a point, summit, *holm*, a hill, *kor-si*, haulm, *kor-si*, *kur-o*, straw.

16. ✓KAR, to be rough, sharp, (Donner, Nos. 125-50).

Hence Finnic *kar-a*, a bough, *ker*, iron, *gôr*, a plough.

ARYAN ROOTS.

17. √KAR (=har), to curve or roll (Skeat, No. 56).

Hence *cir-cle*, *cor-ona*, *crown*, *curve*, *gar-den*, *hor-tus*, *χορός*, *χορ-τός*; Sanskrit, *kri-mi*, a worm; Keltic, *eru-im*, a worm; Latin *vermis*.

18. √KAR (=har), to turn (Skeat, No. 57).

Hence Latin *car-bo*, English *car-bon*, *hearth*, *kil-n*.

19. √KAR (=kal, hal), to call, exclaim, cry out (Skeat, No. 58).

Hence Latin *clamo*; English *call*.

FINNIC ROOTS.

17. √KAR, to curve (Donner, Nos. 165-178).

Hence Finnic *ker-i*, a circle, *ker-i*, a wheel, *kar-i*, a bow, *kar-tano*, a court, *farniyard*, *gar-dde*, a cattle-stall, *kär-me*, a snake.

18. √KAR, to burn (Donner, No. 149).

Hence Finnic *kar-tuan*, to burn.

19. √KAR, to cry (Donner, No. 164),

Cf. √KAL, to howl or cry.

Here are 19 of Skeat's ultimate Aryan verbal roots, not selected, but taken consecutively as he gives them, which are identical in meaning and sound with 19 of Donner's ultimate Finnic verbal roots.

It is absolutely impossible that the coincidence should be accidental. The test fairly applied, proves that the Aryan and Finnic languages were manufactured out of the same materials.

The resemblances could have been exhibited in a more striking form by taking the Aryan roots as given by Fick, whose analysis goes deeper, but I have taken those given by Skeat because they are more accessible, and because the alphabetical order in which he gives them precludes any possibility of cooking the evidence.

A few more selected roots may be added to the foregoing list:—

ARYAN ROOTS.

20. √KAS, to cough (Skeat, No. 68.)

21. √KAS, to bless, praise (Skeat, No. 66.)

Evidently a secondary sense of 20.

22. √KAR, to bound along, speed.

Hence *has-te*; German *hase*, hare.

23. √KER, to swell out, to be hollow (Skeat, No. 74).

Hence *coelam*, cave.

24. √GAL (=kal), to freeze, be cold (Skeat, No. 99).

25. √VAD, to be wet.

Hence English *wet*, *wade*.

FINNIC ROOTS.

20. √KAS, to sneeze, to cough (Donner, No. 96).

21. √KAS, to praise (Donner).

Hence Finnic *cas-en*, to command, *kazin*, to promise, *koz-mala*, *koz-oni*, to thank, to bless.

22. √KAS, to speed (Donner, Nos. 94, 107).

Hence Finnic *kas-ka*, quick, *koz-el*, a spinning wheel, *kos-k*, a torrent.

23. √HUH, to swell out, and √KUV, to be bent or hollow (Donner, Nos. 121, 122, 292-299).

Hence Finnic *kuor-at*, to excavate, *kav-a*, belly, *kar-is*, hoof.

24. √KAL, to be cold (Donner, Nos. 200-214).

25. √VAD, to be wet.

Hence Mordwin *vad*, water; Tschere-mis *vid*, water; Magyar, *viz*, water; Esth *veesi*, water; Suomi *vesi*, water.

I would only notice that the Aryan did not separate from the Finnic language before the secondary meaning of some of these roots had been developed. Thus in Aryan and Finnic *kas*, to sneeze, had developed the meaning of "to bless"; *kak*, to bend, had developed the meaning "to excrete"; *kar*, to do, had become *kar*, to work evil, to injure; and *kal*, to cry out, and *ken*, to sing, had become *kam*, to love.

Moreover the Finnic roots often throw valuable light on obscure Aryan etymologies, and make it possible to classify the ultimate Aryan roots in a way which otherwise would be impossible.

Not only are the verbal roots and the grammatical structure identical in the Aryan and Finnic tongues, but those primitive words which are usually common to related languages, and which cannot, like culture words, have well been borrowed. Such words are those denoting the primary relations of life—the pronouns and the numerals.

That the pronouns are substantially identical I have shown in examining the pronominal suffixes of the verb, which exhibit the pronouns in their oldest forms, and I will, therefore, pass on to the words denoting the fundamental relationships of life, words for father, mother, uncle, aunt, son, daughter, brother, and sister—words which, as Diefenbach affirms, show identical primitive racial affinities, and not contact—words which he goes on to say penetrate into the primitive structure of all the Turanian languages, and vary according to phonetic laws in a host of dialects, showing a deviation from the primitive Turanian *Ursprache*—words like *suser* for sister, used not only by the European Finns, but by the Eastern Finns on the Wolga, and by the Wotiaks on the Arctic Ocean, and which in no conceivable manner could have been derived by those distant tribes from the German *Schwester*.

I do not attach so much importance to the words for father and mother, as these being the easiest words for children to pronounce may be the same in unrelated languages.

We may, however, compare the Aryan *mama*, mother, with the Esthonian *ema*, mother, the Ostiak *ima*, wife, the Magyar *eme*, woman, the Karelian *maamo*, mother, and the Syrianian *mam*, mother.

We may also compare the Suomi *taatt*, father, the Esthonian *taat*, father, with the Indian *tata*, Greek *τάτα*, Gothic, *atta*, and the English and Keltic *daddy* and *dad*.

Still more to the point are the words for son and daughter.

We have in Syrianian *pi*, son, in Magyar *fiu*, son, in Ostiak *poh*, son, Suomi *poig*, boy, in Esthonian, *pois*, *pojn*, boy, which may be compared with Greek *παις*, our *boy*, Greek *ἄνθρωπος*, and

Latin *fi-lius*. In Suomi we have *tytär*, daughter, and the words *tyttö*, *tytar*, for daughter, run through the Finnic languages, and can hardly have been borrowed from the Aryan, since *tuta* means "elder sister" in the Tatar languages.

With the Finnic *sözer*, sister, we may compare the Lithuanian *seser*, the Sanskrit *svasar*, the Gothic *svistar*, and the Slavonic *sestra*.

The Aryan and Finnic stem *martya*, *mard*, denoting *homo*, has penetrated so deep into the Finnic languages that it has become the base of the ethnic name of the Mordwins, "the men." *Homo* is *mort* in Syrianian, *mart*, *mort*, *murt*, in the Permian dialects, and *murd* in Wotiak. The Latin *vir* is *mirda* in Mordwin, *mara* in Tscheremis, and *feig* in Magyar, *mes* in Olonez, *mees* in Esthonian, *mios* in Tschud.

In Esth and Lithuanian *mes* is husband, in Suomi *mies* is husband, which may be compared with the Latin *mas*. With the Latin *vir* the Lettish *virš*, and the Lithuanian *vyras* we may compare the Syrianian *verös*, husband, Magyar *ur*, husband.

With the Latin *mulier* and Italian *mogliä*, a wife, we may compare Finnic *muíja*, wife.

With the Latin *maritus* and our *marriage*, and Lithuanian *quarti* (genitive *marzcicos*), a bride, compare Finnic *morsian*, a bride.

With the Finnic *nepa*, a nephew, we may compare the Iranian *napat*, nephew, the Anglo-Saxon *nefa*, a nephew, Old High German *nefo*, Latin, *nepos*, Sanskrit, *napat*.

Not only do the names of these relationships correspond, but a primitive identity in the numerals up to ten may probably be traced. In most cases the ordinary numerals differ in Aryan and Finnic, but there are traces of older numerals which seem to agree.

Thus, the ordinary Finnic 10 is *kume*, *kumen*, or *kymmenen*, but we have a relic of an older 10.

The Syrianian *das*, 10, and Magyar *tiz*, 10, which are related to Latin *decem*, as is shown by the Esthonian, in which *ut-tesa* is 9 (i.e., 10-1) while *kat-tesa* is 8 (i.e., 10-2).

Here plainly *tesa* denotes 10. Now in Suomi *yh-deksan* is 9 (10-1), *kah-deksan* is 8 (10-2).

Hence the primitive Finnic word for 10 was *deksan*. The fact that it occurs only in composition shows it could not have been borrowed. It enters into the very structure of the numerals for eight and nine, which no borrowed numeral would have done.

The Finnic words for 7 are *seitsema* (*n*), *seitza*, *seittem*, and *sebet*, with which we may compare the 7 of the Aryan languages, such as the Irish *secht* from *sechten*, the Welsh *seith*, the Lithuanian *septyni*, the Gothic *sibun*, the Old Slavonic *sedmi*, and the Sanskrit *saptan*.

The Finnic 2 is *kat* or *kaksi*. It appears that this was the primitive Aryan 2, for the Zend *kshvas*, 6, points to an original initial guttural, justifying Prof. Goldschicher's view that it stands for *ka-katwar* = 2 + 4.

For 100 we have from the stem *katam*, the Sanskrit *catam*, the Greek *ἐκατόν*, and the Latin *centum*. In Finnic languages we have the Suomi *sata*, the Livonian *sada*, the Mordwin *sada*, the Wogul *sat*, the Magyar *szas*.

The physical and linguistic resemblances between the Finnic and Aryan races are too deep to be explained by commercial intercourse, by wars, slavery, or migration, or as Penka argues, by geographical contact. Penka admits that they are so fundamental that they must go back to a very remote era. They extend to the Asiatic as well as to the European Finns; and, therefore, Penka thinks, must go back to the time when the Finnic races were still undivided.

Diefenbach holds, more reasonably as I think, that the pronominal suffixes of the verb, and the common verbal roots establish a primitive connection, and that the Finnic speech is the link between Aryan and Turanian languages. The common verbal roots and the words for relationship cannot be explained as loan words, since they vary according to the laws of phonetic correspondence, in the Asiatic as well as the European dialects, and they must, therefore, have belonged to the Finnic *Ursprache*.

The real difficulty lies in the fact that the physical resemblance exists only between the western Finns and the northern Aryans, neither the eastern Finns nor the southern Aryans exhibiting the pure Aryan type—tall, blue-eyed, and fair-haired.

This can be explained, if we suppose that the eastern Finns are Ugrians, and not Finns by blood, just as the Slaves, who agree with the Ugrians in type are probably not Aryan by blood; while the Mediterranean races are Iberian in blood and only Aryan in speech.

The most probable solution seems to be that in the western part of the primitive Finnic area, the more favourable physical conditions led to a development of the Finnic type and Finnic speech, into what we call the Aryan type and Aryan speech, while among the more northern portion of the Finnic race under the less favourable conditions found in the marshes of Finland, there was an arrested development, leaving the Suomi Finns and the Esthonians as survivals in race and language of the primitive race from which the Aryans sprang.

If we thus regard the Aryans as developed out of the Finnic family, we need no longer suppose that separate families

branched off from the primitive Aryan stock, and migrated to the west, but we may think rather of a vast Finnic population spread over the great plain of Northern Europe, and there slowly developing the characteristics of Aryan speech, and gradually becoming differentiated by geographical separation—an inclined plane, as it were of race and language divided into separate stages or stairs, so to speak, by the destruction of the intermediate portions; those to the west becoming Kelts, those to the south extending their dominion and speech over the Iberian tribes, and those to the east over the cognate Ugrians—the last to separate being the Iranians and Indians, who exhibit a marked affinity to the Lithuanians, who remained in their original seats, side by side with the Esthonians and other advanced Finnic peoples.

This seems more probable than the hypothesis that a primitive pastoral tribe on the head waters of the Oxus, threw off successive hordes which marched westward into Europe.

The date of the separation of the Aryan from the Finnic stock cannot well have been less than 6,000 years ago, and it may be interesting to inquire, in conclusion, what linguistic science teaches us as to the common element of civilisation then possessed by the undivided people, as shown by the culture words common to the Aryan and Finnic languages, and which, because of their wide extension, cannot well have been mere loan words.

In the discussion of the verbal roots which are identical in Aryan and Finnic, it will have been noticed that from identical roots, wholly different words have been formed to denote the same things. Thus from the root *kap* we have *cap-ut* and *κεφαλή* in Aryan, and *kop-aska*, a skull, in Finnic. The root is the same, but the formatives are different. From the root *kam* we have *cam-era* in Aryan and *kam-ma* in Finnic. From the root *kar* we have *gladius*, *kur-as*, *cur-ro*, *kar-an*, *cor-acle*, *car-bes*, *carriage*, *ker-ap*, *cul-mus*, and *korsi*. In these cases the words seem to have been formed subsequently to the separation of Finns and Aryans.

But in the case of a few of the primary necessities of life, the words as well as the roots are the same, and hence we may deduce the state of civilisation arrived at before the separation.

Assuming that the Proto-Aryan race was originated in a cold climate, shelter must have been imperative, and accordingly from the root *kat*, to cover, we get the words *hut* and *cot* (Old High German *huota*, Anglo-Saxon *cyt-a*, Old Norse *kot*). Now these words run through the whole of the Finnic languages, Asiatic and European, so that they cannot be Aryan loan words. The word for a house or dwelling is *kot-a* in Suomi, *kod-a* in Estho-

nian, *goat-te* in Lapp, *kud-o* in Mordwin, *kud-o* in Tscheremis, *kat* and *kuz* in the two Ostiak dialects, *haz* in Magyar, and *kot-o* in Mongolian.

They must also have required clothes, and from the same root *kat*, to cover, which gives us the root for the primitive *hut* or *cot*, we get the Aryan word *coat*. The Finnic languages show that the primitive people were clad only in the skins of animals, since the skin or hide of an animal is *kut* in Wotiak, *ked* in Mordwin, and *kele* in Suomi.

If, as we shall presently see, they possessed domesticated animals they must have had enclosures. From the root *kar*, to surround or gird, we get, with the formative *t*, that which girded or surrounded. We have such words as *gar-d*, *gar-den*, and *hortus*, in Aryan languages, while in Finnic languages a garden is *kar-t* in Suomi, *kär-t* in Magyar; *kar-ta* is a cowbyre in Syrianian, a farmyard is *kar-ta* in Ostiak and Wogul, and *gar-dle* is a circle in Lapp.

Their domesticated animals seem to have been the stag, which is *cer-vus* in Latin, *kar-w* in Welsh, *har-t* in English, and *hir-sch* in German. The Finnic languages have the same name for the stag or probably for the reindeer. A stag is *har-v* in Esthonian, *hir-vi* in Suomi, *sar-v* in Lapp, and *szar-vas* in Magyar. This probably meant the horned one, as a horn is *sarvī* in Suomi, *szarv* in Magyar, and *cur* in Tscheremis, from the root *kar*, to be hard. The connection of *cervus* and *cornu*, *hart*, *hard*, and *horn* is thus explained.

The goat seems also to have been domesticated. It is *caper*, in Latin, and *hafr*, in Old Norse, the same as the Finnic *kapris* and the Lapp *habres*, all from the root *kap*, common to Aryan and Finnic, meaning to move to and fro, and hence to jump.

The ox, which is *taurus* in Latin, and *tarw* in Keltic, is *tarwas* in Finnic, but this is probably a loan word.

The pig, which is *porcus* in Latin, is *porsas* in Esthonian, *puros* or *pores* in Ostiak, *pors* in Syrianian, *boros* in Wogul, *porzas* in Wotiak, and *purtz* in Mordwin.

With the Greek *ἵππος* and the Keltic *epo-* we may compare the Suomi *hepo*, and the Ostiak *kopta*, a horse, and the Samoyed *habta*, an ox, and the Finnic *käba*, a horse's hoof. These seem to be connected with the Finnic from the root $\sqrt{\text{hap}}$ to speed, haste.

These animals were not only kept in enclosures, but tended by herdsmen, as appears from the fact that a shepherd is *ποιμήν* in Greek, and *piema* (genitive *pemens*) in Lithuanian, and *paimen* in Finnic.

The goose is $\chi\eta\nu$ in Greek, and *gas* in Old Norse, Swedish,

and Russian. It is *gaz* in the Tatar languages, and *hanhi* in Finnic.

Of the metals the undivided race seem to have known gold and copper, the two metals which are found in a metallic state.

All through the Finnic languages, we have the root *kol*, *kil*, or *kul*, meaning to shine, to be yellow. It is seen in the Tschermis *kul-a*, and the Finnic *kul-la*, yellow, and the Esthonian *kul-u*, yellow, unmown grass. Hence we get the Suomi *kul-ta*, the Esthonian *kuld*, the Lapp *golle*, which means gold, and the Samoyed *kola*, the Tatar *kola* and the *gule*, which means brass or copper. In Aryan languages, we have the same name from the same root *ghal*, to be green or yellow (whence the Latin *lutum*), or *ghar*, to shine. Hence the Lithuanian *geltas*, yellow, and the Gothic *gulth*, gold. It is possible that this may be a loan word, but if so, it seems to have been a Finnic word borrowed by the Aryans.

As for copper the case is stronger. No Aryan etymology is known for the Latin *æs*, the Gothic *ais*, and the Sanskrit *ayas*. But the root seems to be the Turkic *✓as*, to dig, seen in the Tchagatai *es-mek*, and the Jakut *kas*, to dig. In the Finnic languages, copper is *vas-ki* in Suomi, *vas* in Old Magyar, and *air* in Lapp. Ahlquist remarks that the name for copper being the same among the Finns and eastern Ugrians is a proof that this metal was known prior to the separation of the Finnic race.

The Finnic *rauta*, iron, was probably at first a name for metal in general. In Accadian *uruda* is copper, in Pehlvi *rod* is bronze, metal is *ruda* in Slavonic and Lithuanian, which may be compared with the Livonian *roda*, metal, and the Suomi *rauta*, iron.

An iron sword is *kareta* in Irish and *ker* in Kurdish, which are probably only loan words from the Finnic. In Suomi a dagger is *karti*, and a knife is *kuras*. Iron is *karti* in Ostiak, *kort* in Wotiak, and *ker* in Wogul, which come from the Finnic root *✓kar*, to be hard.

That the sea was known to the primitive Aryans appears from the fact that it is *mira* in Sanskrit, *mare* in Latin, *mor* in Celtic, *morje*, in Slavonic, *meer* in German. But it was known to the undivided Finnic race by the same name. We have *meri* in Tschud, *merri* in Esthonian, *märri* in Lapp, *mora* in Syrianian, *morja* in Wotiak, and *more* in Mordwin.

The Latin *in-sula*, and the Lithuanian *sala*, an island, have been referred to the Sanskrit *sara*, water. A more probable etymology is the Finnic *salo* and *saari*, the Lapp *suolo*, and the Livonian *sala*. This seems to be related to the word for *salt*, which runs through the Finnic languages. We have—

Suomi	<i>suol-a.</i>
Veps	<i>sol-a.</i>
Esth	<i>sol.</i>
Lief	<i>suol.</i>
Syrianian	<i>sol, so.</i>
Permian	<i>sol, sov.</i>
Wotiak	<i>sil-al.</i>
Mordwin	<i>sal.</i>
Tscheremis	<i>san-zal.</i>
Magyar	<i>so.</i>
Ostiak	<i>sol.</i>
Wogul	<i>sol-vel.</i>
Samoyed	<i>ser, silo, salt.</i>

Donner (No. 724) takes it from $\sqrt{\text{sal}}$, to glitter, white, shining. The word *sal* runs through the Aryan languages of Europe, but not of Asia; it is found in Latin, Greek, Teutonic, Keltic, and Slavonic.

Fick says this root is $\sqrt{\text{sar}}$ or $\sqrt{\text{sal}}$, to go, and connects it with *ser-um*, milk, and *sal*, island, in *in-sula*, and the Sanskrit *sara*, water, milk. But surely the Finnic etymology—white, glittering, is to be preferred.

The primitive Aryans possessed ships as appears from the Sanskrit *nau*, the Iranian *nâve*, the Greek *vau*s, the Latin *navis*, the Keltic *nau*, but this word does not appear in Finnic languages. The German *kahn*, which reappears in Old Norse, and in Low German, seems to be the Finnic *kûna*, a small boat, apparently derived from the Finnic *kyna*, a hollow tree.

Salmon is *lohi* in Finnic, which may be compared with the Russian *loch* and the German *luchs*.

Cheese is *kus* in Finnic, probably the same as our word cheese, and the Latin *jus*, broth. This seems to show that the cheese was only curds.

The Indian *soma*, Iranian *homa*, the drink of the gods, may, I think, be explained by the Finnic *sima*, honey or mead. In Magyar *som-joh* is thirst, in Mordwin, *sem-an* is to drink, and *sim-ina* means drunken. In Livonian *sâm* is drunk, and *sêm-a* is milk.

The Aryan *kard*, beast, may be compared with the Finnic root *kar*, to jump or spring.

A name is *nim* in Syrianian, *nimi* in Suomi, *nem* in Ostiak, and *nev* in Magyar. To count is *leg-ere* in Latin, and *luk-ea* in Finnic.

With the Latin *candela* we may compare the Suomi *küntela*, the Wotiak *kuntteli*, the Lapp *kyndel*, and the Mordwin *sandal*.

It appears, therefore, that prior to the separation of the

Aryan and Finnic races, they were acquainted with copper and probably with gold, but their tools were chiefly of horn or stone. They sheltered themselves in huts, and were clad in skins, but there is no evidence that they possessed the art of weaving. They knew how to kindle fire, they could count up to ten, possibly up to a hundred. They had personal names, while family relationship and marriage were fully recognised. They were acquainted with the sea, and may have been able to cross lakes or rivers in canoes made of hollow trees. They caught salmon and used salt, and gathered bitter herbs for food, or more probably for condiment. It does not appear certain that they grew grain or were acquainted with the rudiments of agriculture, the name of the Finnic plough, *kar*, the crooked branch of a tree, being only doubtfully connected with the name of the Aryan plough. They collected honey, out of which they made an intoxicating drink, and made a sort of soft cheese, like curds. They possessed herds of domesticated animals which were tended by herdsmen, and were kept in fenced enclosures. These animals were probably goats, swine, reindeer, and geese, and possibly oxen, but the dog, the sheep, and the horse seem to have been as yet untamed.

In conclusion I may add that if this hypothesis, as to the primitive identity of the Aryan and Finnic races be finally established, a world of light will be thrown upon many difficulties as to the primitive significance of obscure Aryan roots (*salt, æs, arare*), and the nature of the primitive Aryan grammar.

We are furnished, in fact, with a new and powerful instrument of philological investigation, which can hardly fail to yield important results. Comparative Aryan philology must be prepared henceforth to take account of the Finnic languages as affording the oldest materials which are available for comparison.

DISCUSSION.

Prof. KEANE remarked that no doubt Canon Taylor had advanced some striking arguments in favour of a Finnish descent of the first Aryan-speaking populations. But some very formidable difficulties would have to be removed before that theory could meet with general acceptance. Much stress was laid on the fact that the Finns were physically a European (Caucasic) rather than an Asiatic (Mongolic) people, and the suggestion that their resemblance to the surrounding Teutonic populations might be due to long contact and gradual assimilation was rejected as to the last degree improbable. But within the Ural-Altaic family itself, of which the Finns have hitherto been regarded as outlying members, such assimilation had actually taken place in comparatively recent times. Obvious instances were the Bulgarians, Magyars, and Osmanli

Turks, some of whom no doubt here and there still betrayed traces of their Ugrian and Turkic descent, but most of whom were now scarcely to be distinguished from ordinary Europeans. What, therefore, had happened in the Balkan Peninsula and Hungary within the last few hundred years might well have happened in Finland within the last few thousand years, during which we now know the Suomi people have been in close contact with Norse and other Germanic as well as Slavonic tribes. For a long time large tracts in South and West Finland, where the population is chiefly centred, have been occupied by Swedish settlers, and the Swedish language is even still current along the seaboard from Abo eastwards to Wyborg, and northwards to Uleaborg. For ages the whole region has been an area of intense intermingling, which has resulted in the Tavastians, or western Finns, of somewhat Germanic type, and the Karelians, or eastern Finns, more nearly allied to the Slavs. The primitive Finnish type has thus been no doubt considerably modified in Finland itself, and even in Lapland. But the true Mongolic character of that type is clearly revealed in their eastern neighbours the Samoyedes, who speak a closely related language, and who, being less exposed to invasion in their inhospitable northern homes, have far better preserved the physical features of the common original stock. It should also be noted that these features may still be detected in the dirty white, never really florid complexion, brachycephalous head, broad face, large mouth, small and sometimes even oblique eyes, and beardless face, of the Quäns and Ostrobothnians of Central and Northern Finland, who have also formed some isolated settlements in Central Scandinavia. With regard to the curious theory that the primitive Aryans were differentiated from the Finnish stock by a process of albinism in the marshy lowlands of Central Europe, it should be borne in mind that albinism is essentially a morbid affection, which, if due to unfavourable conditions, would again disappear in a more salubrious environment. Hence, the feeble white Russians of the Rokytno swamps, Poesche's land of albinism in a pre-eminent sense, become as vigorous and energetic as any other Slav people when removed to more healthy districts. The so-called "albinism" of the typical Germanic race, the finest in the world, can in no way be regarded as pathological, and was certainly evolved, not in the sickly Pinsk marsh lands, but in the invigorating atmosphere of some breezy upland or marine region.

Nor does Canon Taylor's philological argument seem to carry more weight than that based on anthropological considerations. Notwithstanding certain points of resemblance, chiefly lexical, a profound abyss still separates the Aryan from the Ural-Altaic linguistic family, of which the Finnic is confessedly a member. The lexical affinities have been carefully studied by W. Thomsen, in his classical work "*Ueber den Einfluss der germanischen Sprachen auf die finnisch lappischen*," and this eminent Danish philologist would be about the last person to suggest a Finnish origin for the Aryan languages. In a lecture delivered some three

years ago in Copenhagen he dwelt more directly on this point, remarking in reference to Andersen's well-known "Finnish proclivities," that it was open to anyone to assert an extremely remote connection of Aryan and Finnic; but although these languages might be perhaps more nearly related than Aryan and Semitic, still the distance was so great, that in the present state of our knowledge, the relation could neither be affirmed nor denied. The theory was a pure hypothesis of no scientific value, because based on no solid groundwork of fact. Certainly this groundwork, which specialists such as Thomsen and Winkler have failed to discover, has not been supplied by Canon Taylor's verbal comparisons, made before even an attempt has been made to establish a common Finno-Aryan system of *Lautverschiebung*. Winkler, whose monumental work on the Ural-Altaic races and languages is still in progress, distinctly asserts that, even in its present advanced state, Finnish can in no way be regarded as an inflecting language. The point has been so much discussed, and is of so much importance in the present connection, that it may be well to quote his very words: "Meine Ansichten werden sich im Fortgange ergeben, so namentlich dass ich nicht entfernt die finnischen Sprachen für flexivische halten kann" ("Uralaltaische Völker," I, p. 54). But if Finnish has not even yet approached the inflecting state, what was its condition some 5,000 or 6,000 years ago, the period to which Canon Taylor refers the separation of the Finnic and Aryan stocks? And can it be for a moment supposed that, starting from such crude beginnings, it had time to develop into the highly inflecting organic Aryan speech, which had itself already become differentiated into the Indian, Iranian, Hellenic, Italic, and other well marked groups, such as we find them at the very dawn of history? It should be observed that throughout the whole of their historic life, the Finno-Tatar and Aryan languages have been pursuing two opposite lines of development, the former *ascending* from rude agglutination in the direction of inflection, the latter *descending* from the very highest forms of inflection down to the analytic state, as illustrated, for instance, in English, Danish, and Persian. This disintegrating process must certainly have been going on for a much longer period than Canon Taylor's 5,000 or 6,000 years, as must be obvious when we remember the profound differences already separating the Keltic, Italic, Teutonic, and other branches upwards of 2,000 years ago. Consequently at the assumed date of the Finno-Aryan dispersion the Finnish was in a very low state of agglutination, while the Aryan was much more highly inflected even than any of its present representatives, as known to us in their most archaic forms. It follows that Canon Taylor allows absolutely no time at all for the tremendous transition from the agglutinating Finnish to the inflecting Aryan form of speech, as postulated by his or Andersen's theory.

Then we are asked to believe that the Slavs are mainly Aryanised Ugrians, and the South Europeans Aryanised Iberians, which only intensifies the difficulties standing in the way of this

theory. For, although not intrinsically impossible, such startling transformations could not be effected in a moment by a touch of the magician's wand, but would require a vast period of time, which is precisely the very factor Canon Taylor suicidically eliminates from his hypothesis. The Slavs are not merely Aryanised in speech, but, if originally Ugrian Finns, they have most of them long become almost typical Europeans in their physical features; for it would be difficult to discover in Western Europe more regular features, more finely modelled heads than those which we currently meet, even amongst the peasantry in Montenegro, Serbia, Croatia, Poland, Bohemia, and many parts of Russia. All these Sarmatians were 2,000 years ago as distinct as they now are from the surrounding Scythian populations, so that the hypothesis allows at the very utmost only 4,000 years to effect the astounding transformation from an Ugrian Finn, or, say, from a Wogul or an Ostyak, to the ideally beautiful Caucasian type. Such a transition might no doubt be brought about by the absorption of a few Ugrians in a large mass of Western Aryans. But the assumed process was all the other way, the great body of the "Ugrian Slavs" being supposed to be Aryanised by a few "Finno-Aryan" conquerors from the region between the Rhine and Vistula, where we are told the Finns were originally transformed to Aryans in speech and type. Thus, from whatever point of view the theory is approached, it seems to fade away from the safe ground of fact into the airy region of doubtful or untenable hypothesis.

MR. BOUVERIE-PUSEY remarked in reference to an observation by Prof. Keane on the Bulgarians, that the Bulgarian peasantry of the neighbourhood of Sofia seen by the speaker last year, closely resembled in their features the Chinese.

MR. STUART GLENNIE said that according to Retzius, *Finska Kranier* (1878), two distinct types were to be distinguished among the Finlanders, a dark and a fair type; and this fair element Quatrefages connects with those non-Semitic and non-Aryan white races to which he has given the name of Allophyllian, but which might, perhaps, be preferably named Archaian, if races of this stock are found to have been the initiators of the archaic civilisations that preceded the Semitic and Aryan civilisations. From such a white race Mr. Stuart Glennie thought that it might be found possible to show that the Aryans were derived, though he could not accept their derivation from a race of the Turanian stock. He would add that, raised as the Kelts now undoubtedly are, he questioned very much whether their claim to be considered as a primitive, or the primitive Aryan race could be justly set aside so summarily as by Penka in favour of the Scandinavians.

MR. HYDE CLARKE writes, that seeing so many visitors were present, whom it was desirable to hear, he reserved his remarks for the *Journal*. He considered that the paper of Canon Taylor opened up the question of the relations of comparative philology with anthropological science generally. Those relations are of a

most unsatisfactory character, and this was illustrated by the Canon, for his allegations were not such as to command the adhesion of the naturalists present. He leaned on authority, instead of depending on facts open to every observer, as in other departments of natural science. Nevertheless, he stated that the authorities had been altogether wrong on this Aryan question, and were now to be abandoned. With a colleague he had adhered to the proto-prophet of Aryanism in this country until two years ago. They now proposed to transfer their allegiance to some other authorities in Germany, for whose accuracy he vouched, and for whom he solicited implicit credence, though the two chief exponents of the new version of Aryanism do not agree with each other. It might have been hoped that dependence on authorities had ceased in every branch of science. The new scheme of Aryanism only amounts to a shifting of the scenery of the old theory at a moment when by an accumulation of evidence it has been condemned. The departing Aryanism with its philology and mythology depends on the myth of a proto-Aryan language. For this is substituted another speculation of a pre-historic union of the proto-Aryan and the proto-Finnish languages, for we may for the time dismiss points as to race. The evidence in support of this speculation is altogether valueless, because it will prove many other various propositions. Such a union of Indo-European and Finnic does not necessarily imply a union with the whole body of the Altaic languages, because such a class as Altaic is an artificial classification when regarded practically. It would, however, embody Finnic even to Magyar, and most probably a large mass of languages in the Himalayas.¹ Such a union would be attended by a confusion of languages, races and historical incidents causing still greater difficulties in obtaining a clear solution. The lately dominant philology of the authorities was a survival of the doctrine of the Semitic archetype of language, having in alliance the later invention of Sanskritism, as another pre-eminent type. To study a Semitic grammar or a Sanskrit grammar gave the title of scholarship and of the doctorate. All else was outside the sacred bounds. The course of events in England and France has brought about a revolution. Chinese studies have maintained and asserted their independence and dignity. The establishment of the philology of the Dravidian languages by Bishop Caldwell and our other Indian scholars has created another domain. The attention which has been bestowed on the promotion of Egyptian and cuneiform investigations has most materially influenced the minds of the learned, notwithstanding the dogged resistance of the authorities to the results of discovery. The labours of Bleek in Bantu; of our missionaries in Australasian and Polynesian languages; and of American men of science in the Indian languages, have all contributed to attract

¹ "Himalayan Connections of the Magyar," by Hyde Clarke, in "Journ. Anthropol. Inst."

notice to the despised "Turanian." Not the least among the operative influences have been the exertions during a long generation of our two Societies, and the Anthropological Institute, which now exists in their union. The Institute has always recognised philology as a legitimate branch of anthropology, and has been the means of publishing papers, and of stimulating researches, which have brought forward much new evidence, registered in our journals, on languages, and on collateral information relative to them, which were new to inquirers. Prof. Huxley, during his Presidency, induced that remarkable scholar Dr. Bleek to contribute to our pages, and his writings may be usefully referred to in their bearing on the Canon's conclusions. Upon the Aryan problem contributions will also be found in our volumes. So far from its being the case that the philologists of Germany are enrolled in support of his phase of Aryanism, the school of "new philology" has organised itself under direction of Dr. Carl Abel and other eminent leaders; last year was held the first Conference, and this year the second. Indeed, beyond its influence in the special study of Sanskrit, Aryanism is not now regarded as a reigning power. Canon Taylor has marshalled a large number of cases to show the connexion of Indo-European and Finnic, and most of these may be admitted without accepting his conclusions. They relate to incidents which result from the original laws of the formation of language, or to what may be found in many other languages besides Indo-European and Finnic. One great cause of the present backward condition of authoritative philology is the preference of its scholastic votaries for grammatical construction and the neglect of words, which should be the primary study. Thus languages are classified by grammatical peculiarities, which, after all, are not typical or characteristic. The Altaic languages are brought together from several groups, which have no connection of words. In the Turkic group a man may, with little practice, work his way among a number of tribes from the European frontier to that of China, but this will not help him with Magyar, Mongol, or Manchoo, any more than with Japanese or Korean, which it is now proposed to throw into the class. The elements of comparative philology are to be found in manuals, and those which are sufficient are very cheap, but little attention is paid to facts, and much to imagination. Philology and psychology, as branches of anthropology, are, indeed, much in the same condition. To place the Aryans in Central or Eastern Europe, or in Scandinavia, for thousands of years, is to create a difficulty in the working of such incidents and events as we can discern. We should have to admit that they allowed the Iberians to act in those regions and to control the neighbouring countries of Europe. We must suppose that until a measurable historical period they let Hellas and Italy alone, even if there in the first instance they effected a forcible invasion. We know that contemporaneously they occupied Persia and penetrated into India. At a very late period alone the central body of the Aryans are to be supposed to have assailed the Roman Empire.

Apart from purely anthropological considerations, the historical relations are most unfavourable to the hypothesis upon which dependence is now placed, and which are less plausible than the High Asia doctrine. In the whole matter we are called upon to assume that the white races first entered on the scene when they were albinoised in White Russia, when we know that the Aryan epoch is only one late movement of the white races. If we cannot as yet positively identify the originators and propagators of speech, and the culture connected with it, as white races, or the introducers of culture into Egypt as such, we are compelled to suspend our judgment in this consideration by the formation of the great historical empires of antiquity by Turanian whites, and the extensive remains we still have of white races. The Persian population is that which was there before the Aryans, and the Georgian nations, speaking highly organised languages, now disguised as Alarodian, have been before now adopted as typical whites. Then there are those remains of white populations in the central chains of Asia referred to by Mr. Stuart Glennie, some of which speak dialects approaching Indo-European; but some, like the Lolos, retain what is called Turanian culture. In considering possible centres of the white migration, many circumstances should induce us not to neglect High Africa. The data of Canon Taylor and others as to the culture of the imaginary proto-Aryans and proto-Finns are simply philological, and as such require to be compared with the body of the vocabularies of Africa and America, when it will be found that the special conditions relied upon cannot be sustained, and are applicable to many populations. The argument founded upon numerals is also weak, and requires correlation with the main body of data, as numerals are of less value for determination than philologists have assumed. Indeed generalisations from a specialised class must, as in other departments of nature, be examined under the whole body of evidence to constitute real and operative generalisations. The Canon has brought forward M, T, and S, as decisive indices of the common origin of Indo-European and Finnic as pronominal terminations in inflection. The Canon knows that M, T, and S figure strongly in Semitic formations, and he may be reminded that they play their part in the Bantu and in the Georgian. It is requisite therefore to use caution in depending upon them in the instances cited, and so with many examples. The reason why Mr. Clarke has gone more fully into the general considerations is with the desire to call attention to the present condition of philology at this period of transition, as much as to Canon Taylor's paper as an exemplification, and in the hope that the scientific study of philology may be promoted.

ANTHROPOLOGICAL MISCELLANEA.

THE PRIMITIVE HUMAN HORDE.

MR. G. L. Gomme, in his suggestive paper printed in the *Journal* of the Institute for November last (p. 118) states that the hypothesis there stated is put forward for consideration, and as I take especial interest in the subject discussed, and Mr. Gomme refers to a paper of mine, I propose to critically examine the evidence he furnishes in support of his hypothesis. Before doing so, however, it may be as well to see what is meant by "primitive human horde." The idea, if not the phrase, is that of the late Dr. J. F. McLennan, and it is necessary that we should know exactly what we are intended to understand by it. The term *horde* is used by this distinguished writer to denote a "primitive group" ("Studies in Ancient History," p. 133), and it may be explained by the expression "the earliest human groups" (p. 121). It is evident, therefore, that before we can attach any definite meaning to that term, we must ascertain the characteristics of the "primitive group." They are as follows:—

- (a.) The absence of any idea of *kinship*, and at first of consanguinity, although the latter idea would gradually be formed and give rise to the conception of stocks (p. 121).
- (b.) Homogeneousness—that is, all the members of a group belong to the same stock (p. 183).
- (c.) Promiscuity in the sexual relations (p. 134).
- (d.) Uncertainty of paternity, with kinship through females only gradually recognised (pp. 124–5).
- (e.) Female infanticide, with scarcity and capture of women (pp. 132–3), resulting in—
- (f.) Exogamy.

We need say nothing about the "modification of promiscuity" to which Dr. McLennan gives the title of the "ruder species of polyandry," or the less rude polyandry which was developed by the help of the system of kinship through females only (p. 138).

When a "primitive human horde" is spoken of as equivalent to the "primitive group" or *horde* of Dr. McLennan, it must be supposed that the former has all the characteristics of the latter. When we examine Mr. Gomme's system, however, we find it is not so. The characteristics of his primitive horde are as follows:—

- (a.) Recognition by natural instinct of connection between parents and children, although quickly lost, and not used for *political* purposes (p. 122).
- (b.) Possession of a totem system or the germs of such a system, with exogamy (pp. 127, 131).
- (c.) Temporary monandry; no evidence of "utter promiscuity" (pp. 121-2).
- (d.) Certainty of paternity and maternity, but recognition only temporary in duration and quickly lost (p. 122).
- (e.) Infanticide did not produce scarcity of females (p. 131), nor, by inference, lead to capture of women.

To these conclusions may be added that an artificially formed organisation based on kinship was developed among migratory hordes, who came into conflict with preceding hordes, and that, owing to scarcity of women, polyandry arose among the former, in combination with descent through females (pp. 131-2).

The characteristics of Mr. Gomme's "primitive horde" are clearly very different from those of Dr. McLennan's "primitive group." The essential features of the latter are promiscuity in the sexual relations, absence of the idea of kinship, uncertainty of paternity, and female infanticide, causing scarcity of women and consequent capture, features which are absent from the former. When Mr. Gomme says there is "no excuse for using the term 'utter promiscuity,'" and "no reason again to suppose that paternity was uncertain, and was, therefore, incapable of being recognised" (p. 122), he cuts away the basis of Dr. McLennan's theory. On the other hand, according to Mr. Gomme's hypothesis, "the primitive human horde was kept together by outside forces, not by internal arrangements" (p. 125), which is hardly consistent with Dr. McLennan's statement¹ that, though a group of kindred in the rudest stage "were chiefly held together by the feeling of kindred, the *apparent* bond of fellowship between the members of such a group would be that they and theirs had always been companions in war or the chase—joint tenants of the same cave or grove." Again Dr. McLennan says (p. 129) "It is inconceivable that anything but the want of certainty on that point (paternity) would have prevented the acknowledgement of kinship through males," a statement which in advance condemns Mr. Gomme's hypothesis; for this supposes that in the primitive human horde "both paternity and maternity were certain, and they were fully recognised," although kinship through females was the earliest to be originated, and was so only in a migrating horde as the result of conflict with a primitive horde.

So far, then, from Mr. Gomme having supplied evidence in support of Dr. McLennan's theory of the primitive group or horde, he has formulated something quite different. Let us now examine

¹ "Studies," page 122, Mr. Gomme quotes a portion of this passage in support of his view of "outside forces," but unfortunately he omits all the words before "fellowship."

the arguments by which his hypothesis is supported. Mr. Gomme's primitive horde consists of a group of individuals whose sexual relations were those of "temporary monandry," in which a man chooses a woman and is husband to her "just so long as offspring is begotten and requires protection." As soon as the offspring were capable of taking care of themselves the parental tie was snapped and the relationship ceased to be recognised. This group of individuals possessed or developed the principles of totemism and exogamy, and was kept together (1) by "a totem organisation and not a blood tie;" and (2) by "the accumulated and accumulating fears of the dangers that surrounded them," which fears found their ultimate expression in a system of nature worship, and not by "internal arrangements." Mr. Gomme remarks that it is impossible to conceive that the union of parents would continue after the offspring were capable of taking care of themselves, and in a note he affirms that "many examples exist in savage society where the parents separate after the birth of a child" (p. 122). It is a pity some of these examples are not given. As a case in point I would refer to the statement of Sir Ed. Belcher¹ in relation to the Andamanese, of whom it is said that a man and woman separate as a matter of course when their child is weaned, and each seeks a new partner. This is, however, so entirely opposed to the actual facts as now made known by Mr. E. H. Man, that we ought to be on our guard against accepting casual observations of the social customs of savages until they have been verified by careful research by competent enquirers. Mr. Man's testimony as to marriage among the Andamanese is that "so far from the contract being regarded as a merely temporary arrangement, to be set aside at the will of either party, no incompatibility of temper or other cause is allowed to dissolve the union, and while bigamy, polygyny, polyandry, and divorce are unknown, conjugal fidelity until death is not the exception but the rule" (*Journ. Anthropol. Inst.*, Vol. xii, p. 135.)

The only systematic use of "temporary monogamy" I am acquainted with—isolated cases are almost valueless for the purposes of a general argument—is that recognised by the natives of North America, who, when first visited by Europeans, had what Mr. Lewis Morgan calls (*"Ancient Society,"* p. 453) the *syndyasman* or pairing family. This family was founded upon marriage between single pairs and possessed some of the characteristics of the monogamian family, although the marriage was a matter of convenience and necessity, rather than of sentiment, and it continued only during the will of the parties. The husband "could put away his wife at pleasure, and take another without offence, and the woman enjoyed the equal right of leaving her husband and accepting another, in which the usages of her tribe and gens were not infringed." Not only have the American aborigines this simple pairing family, but, like Mr. Gomme's primitive horde, they possess

¹ Curiously enough, Sir John Lubbock cites this case as an instance of "communal marriage."—*"Origin of Civilisation,"* 3rd ed., page 82.

the principles of totemism and exogamy. Their institutions may, indeed, be said to be based on totemism, for the totem is the symbol of the gens, and they possess the gentile institution, or, as it was named by Schoolcraft, the totemic institution, fully developed. The gens is said by Morgan (p. 63) to have been "the instrumentality by means of which society was organised and held together." It answers, therefore, to the totem organisation which kept together Mr. Gomme's primitive horde, and we may assume that the latter was based on the same ideas as the gens.

This is an important conclusion, for the gens came into being upon three principal conceptions—the bond of kin, a pure lineage through descent in the female line, and non-marriage in the gens. One of its obligations is not to marry in the gens, and from it springs the practice of exogamy. The existence of the totem organisation in the primitive horde would thus require it to have been bound together by the ties of kin, and the practice of exogamy proves not only that kinship was fully recognised, but that it had such a binding force. When, therefore, Mr. Gomme states that "the horde possessed, or had developed, the principles of totemism and exogamy," it is equivalent to admitting that the primitive group consisted of persons related by blood, who were not allowed to intermarry, and who, like the members of the gens, were bound together by the ties of kinship.

The earliest American gentes appear to have preferred descent in the female line, and as women lived with their children among their husband's relations, each gens had members in more than one tribe. It is clear that in such a case the influence of the "outside forces" referred to by Mr. Gomme, would not suffice to keep the group together. With descent in the male line the result might be different, and so, also, where, with descent in the female line, the wife and her offspring reside with *her* kindred. This was probably the case among the early Arabs, and the Arab tribe may be said to answer as nearly as possible in most respects to Mr. Gomme's primitive horde. Unfortunately, however, for his hypothesis, Prof. Robertson Smith, who accepts Dr. McLennan's views as to the early society, affirms ("Kinship and Marriage in Early Arabia," p. 22) that "the tribal bond all over Arabia, so far as our evidence goes, was conceived as a bond of kinship. All the members of a group regarded themselves as of one blood." Elsewhere (p. 227) Prof. Smith declares that "common blood, as indicated by the common totem, is the only permanent bond of union, and manifests itself as such whenever a blood-feud arises."

Mr. Gomme endeavours, however, to place his hypothesis on the basis of fact, and he refers to a people of Central (?) Asia, the Abors of Assam, as affording "the most singular specimen of the primitive horde, both in respect of the external forces which keep it together, and of the internal organisation which regulates the conduct of individuals to one another" (p. 127). Those forces are said to be so potent that Abor life must "depend almost entirely upon local, not personal influences," and they are aided in keeping

together the group by the totem system, which, however, has not yet been discovered, although it is thought, by analogy to the case of the neighbouring Khasias, to exist within the Abor group. We have seen that the totem is the symbol of a gens based on the bond of kin, but Mr. Gomme mentions, as a definite fact, "which goes far to establishing the theory that they represent a type of the primitive horde," that, although externally the Abors make up one group, "internally there are no traces of the cohesion resulting from the ties of recognised kinship." What is the evidence furnished in support of this assertion? Mr. Gomme deplors that minute examination of the social system of the Abors has not been made, but he tells us that "they are like tigers—two cannot dwell in one den; and their houses are scattered singly, or in groups of two or three over the immense extent of mountainous country occupied by them;" and that whenever a few families of Abors have united into a society, the community is soon broken up by fierce feuds and summary vengeance. But, surely, if these are facts they do not warrant the conclusion that the Abors are "entirely free from the ties of kinship."

Mr. Gomme finds a close parallel between this people and the Cyclopes, and, notwithstanding their complete geographical and chronological discontinuity, supposes them to "belong to an epoch in human history which witnessed the continuous population of this long stretch of territory by groups of the Abor and Cyclop type." Homer's language about the Cyclopes is said to furnish a short summary of the social condition of the Abors. This people must, therefore, be "a lawless folk, who plant not aught with their hands neither plough," and they can have "neither gatherings for council nor oracles of law," but they dwell in hollow caves and "reck not one of another," denoting that they were not bound together by the tie of recognised kinship (p. 128). Now, what are the actual facts? Mr. H. R. Rowney, who mentions that the Abors cannot live peacefully alongside of each other, states ("Wild Tribes of India," p. 157) that they cultivate rice, cotton, tobacco, maize, ginger, a great variety of esculent roots and pumpkins, the sugar-cane, and opium. Each man's clearing is marked off by upright stones, and they have various agricultural implements, which are probably made by themselves, as they have the art of working iron, and can make bells. We learn further of the Abors, that their tribes form confederated states, and "each community is governed by its own laws, devised and administered on purely democratic principles. The laws are made by the people collected together, every individual having an equal vote." Notwithstanding their independent disposition, absolute obedience is given to the decisions of the assembly of citizens, even where it concerns only the course of daily labour. In fact, they are a law-abiding people, and crimes are considered as public pollutions which require to be atoned for by a public sacrifice, which has ultimately to be paid for by the guilty person (Reclus, "Nouv. Geog. Univ.," Vol. VIII, p. 204; "Evolution of Morality," Vol. I, p. 148).

Finally, so far from the Abors living only in scattered dwellings, they have considerable villages, each of which has a town hall where the unmarried men pass the night. These facts seem to me to furnish sufficient evidence of the existence of "cohesion resulting from the ties of recognised kinship," and if, as Mr. Gomme asserts, a more elaborate description of the Cyclopes than that given by Homer is to be obtained from what is known of the Abors, the former must have been somewhat libelled by the Greek poet.

So much for the modern specimen of the primitive horde referred to by Mr. Gomme, who considers, however, that the Abors "are but a type of the general aboriginal Indian group." In support of this opinion he quotes a passage from Sir Alfred Lyall's "Asiatic Studies," which refers to the Bheels as a "simple aboriginal horde." This passage, Mr. Gomme thinks, is a remarkable confirmation of his own conclusions. There are, however, facts connected with the Bheels and other aboriginal Indian peoples which forbid us to regard them as reproducing the characteristics of a "primitive human horde." Notwithstanding their apparent lawlessness and their old predatory habits, the Bheels exhibit "great attachment for home and family, kindness towards women, respect for their elders, and an unsophisticated love for truth" (Rowney, p. 37). Their simplicity of character is remarkable, and when confided in, they are the most trusty of servants. Moreover, the Bheels were not always the "outlaws" their present name would lead us to believe. Their former pre-eminence is denoted by the fact that on the crowning of a Rajpoot prince a Bheel marks his forehead with drops of blood drawn from his thumb and his great toe, and thus anoints him as native, and transmits to him the right to possess the country (Reclus, "Nouv. Geog. Univ.," Vol. VIII, p. 282).

Mr. Gomme supposes that the primitive hordes of hunters and fishers were uninfluenced by the ties of kinship, and that later on migrating hordes were enabled successfully to contend with them, owing to their being organised on the basis of kin. An indication that "the ties of kinship had already influenced human thought" is found in the stated fact that "now, for the first time, the dead are carefully buried." If, however, burial of the dead is evidence of the recognition of kinship, this must be allowed to the Bheels, who bury their females and children, although the males are burnt along with their arms and cooking utensils. Funeral rites have, in reality, no bearing on the question of kinship, and both burial and burning are in use among the peoples of India.

I might criticise Mr. Gomme's views as to the effect of migrations on "the development of tribal society based upon polyandry and kinship through females" (p. 131). I will do so, however, only by pointing out that polyandry is not, as a rule, due to a scarcity of women. This could be established by many facts. The cause of polyandry is well expressed by M. Reclus (*op. cit.*, p. 204), when he says of the Dapla, who are allied to the Abors, that "like their neighbours of Tibet, they admit all forms of

marriage; both polyandry, usual among the poor, and polygyny practised ordinarily by the rich." I would mention, also, that true polyandry is associated with kinship through *males*, and not with female kinship.

In conclusion, it appears to me that Mr. Gomme has signally failed in his attempt to establish the existence of Dr. McLennan's primitive group or horde. His arguments tend rather to support the view which he condemns, that the "family" formed the basis of the earliest human groups, which consisted of a number of individuals, or of family units, bound together by the ties of kinship.

C. STANILAND WAKE.

Welton,

18th November, 1887.

SKETCH of ANIWA GRAMMAR.

By SIDNEY H. RAY.

ANIWA is a low coral island in the south of the New Hebrides group. It lies 10 miles north-east of Tanna, and 50 miles north of Aneiteum, in South latitude $19^{\circ} 15'$, and East longitude $169^{\circ} 40'$. The population is rapidly decreasing, and in 1874 was only 194.

Though the natives of Aniwa are in general appearance and customs almost identical with the Melanesian tribes near them, their language is akin to the dialects of Eastern Polynesia, and more especially resembles the Tongan and Samoan. A closely allied language is spoken on the island of Fotuna, about 30 miles to the east of Aniwa. Dr. Steel in his work on the New Hebrides,¹ states that "the natives of the two islands can understand each other. Many of the natives of Aniwa are bilingual, as the island is so near Tanna on the one side and Eromanga on the other." A similar dialect is also found in the district of Mele, in Faté or Sandwich Island, about 100 miles to the north.

This sketch is drawn up from translations of the Gospel of St. John, and some of the Epistles,² made by the Rev. J. G. Paton, of the New South Wales Presbyterian Church, who has resided on the island since 1866.

I.—Alphabet.

1. Vowels, *a, e, i, o, u*, sounded as in Italian.
2. Diphthongs, *ou, ow, au*, as in *loud*; *ei, ai, y*, as in *my*; *oi, oy*, as in *boy*.
3. Consonants, *k, c, g; t, tsh, j; p, f, v, w; s; r, l, m, n, mn*. The consonants are sounded as in English, with the exception of *c* and *g*, which have the same sound as in Aneiteum, and are pronounced as *g* in *go*; and *ng* in *sing*.

¹ "The New Hebrides," by Robert Steel, D.D., London, 1880.

² Ta fasao erefia ma tapu a hepe neisereace Mathius, Markus, Ioanes. I ta fasao Aniwa, Neu Hebritis. Fakowia Melburni Vektoria, 1877-1882.

4. The *t* of Eastern Polynesia is often represented by *tsh*, especially before *i*. The *l* is little used, its place being taken by *r*.

II.—Article.

1. The definite article is *ta*, in the plural *a*; *ta fare*, the house; *a fare*, the houses; *ta fatu*, the stone; *a fatu*, stones. *Ta* is sometimes shortened to *tu*, and *a* to *u*, and *ta* is disguised in the form *to* before *u*; *tumtagi*, the wind (Samoan *matagi*); *umrama*, months (Samoan, *malama*); *towa*, the rain; (Samoan *ua*). *Ta* also appears as *te* and *ti*; *teriki*, the chief; (Samoan *ali'i*); *tiafi*, the fire; (Samoan *afi*).

2. Many nouns commence with the syllable *no*, which appears to be a kind of article. It is probably due to the influence of neighbouring Melanesian dialects, where *na* is the common demonstrative article. *No* is used with *ta* and *a*; *ta nontariki*, the son; (Samoan *atali'i*); *a nontariki*, sons; *nontariga*, the ear; *anontariga*, ears (Samoan *taliga*).

3. The numeral *tasi*, one, is used as an indefinite article: *tasi agelo*, an angel.

III.—Nouns.

1. In the Melanesian languages nouns may be divided into two classes. The first class takes a suffixed possessive pronoun, and the second expresses possession by the use of another word. *Aniwa* differs from other Polynesian dialects in having a few words of the first class. These denote relationship and parts of the body, and also include the noun *tsha*, a thing belonging; and the noun-preposition *nia*. Examples are: *tamanome*, our father; *arotowa*, your hearts; *tshaku*, my thing; *niau*, of me; *avaiore*, their feet.

2. Number is indicated by the numerals or articles; *ta nontariki*, the son; *ruanteriki*, two sons; *anontariki*, sons.

3. The nominative precedes, the accusative follows the verb; *teriki nokomy*, the chief is coming; *tamanowa nibisa*, your father rejoiced; *akoi nikowna avou*, thou sentest me; *acime keiro tamari*, we know the truth.

4. A few nouns have a prefix *foi*; e.g., *foimata*, eyes; *foirakou*, tree. This is probably the Tongan *foi*, as in *foiufi*, a yam; *foimanu*, a bird's egg, and signifies a mass or ball.

IV.—Pronouns.

1. Personal.

Singular. 1. *avou* [*avau*]; 2. *akoi* [*akoe*]; 3. *aia*.

Dual 1. Inclusive *acitawa* [*ketaua*]; exclusive *acimawa* [*akimaua*];

2. *akorua* [*korua*]; 3. *aicrawa* [*kirua*].

Trial 1. Inclusive [*apekitatou*]; exclusive *acimatou*; [*kitatou*];

2. *acoutou* [*aïpe koutou*]; 3. *acratou* [*aïpe*].

Plural 1. Inclusive *acitia* [*akitea*]; exclusive *acime* [*akimea*]

2. *acowa* [*akoutou*]; 3. *acre* [*akirea*].

The forms in brackets are those given in a short vocabulary by the Rev. G. Turner.¹

The same form is used both before and after the verb. After the preposition *ia*, the word *te* is introduced, as in most Polynesian dialects, and we thus have the forms: *iatavou*, to me; *iatakoi*, to thee; *iateia*, to him; *iatakai*? to whom?

In the plural, *te* does not appear. *Taha aia neimna iatako?* what he did to thee? *Avou nakatucua iacowa*, I have told to you.

2. Possessive.

A suffixed possessive pronoun appears in use with the word *tsha*, which is used as a possessive, also with the preposition *nia*, and in the plural with a few other words.

Singular 1. *-ku*; 2. *-u*; 3. *na*. Dual 1. Inclusive —; exclusive *-omawa*; 2. *-orua*; 3. *-rawa*.

Plural 1. Inclusive *-ome*; exclusive *-oteia*; 2. *-owa*; 3. *-ore*.

Examples: *tshaku*, my thing; *niau*, of thee; *tshome*, our thing; *tamanoteia*, our father; *arotowa*, your hearts; *avaioe*, their feet.

3. Interrogative.

The interrogative pronouns are *Akai*? who? and *Taha*? what? *Akoi akai*? thou (art) who? *Akai acowa fatshigeia*? whom ye seek? *Taha aia neimna iatako?* what he did to thee? *Taha akoi kofakowia*? what thou askest?

4. Demonstrative and Indefinite.

Tenei, this; *tera*, that; *anera*, those things; *taha*, that; *tasi*, one; *sece*, another; *faru*, some, certain; *tagatotshi*, all men.

Tenei ta fasao komari, this the saying (is) true; *Taha nopogi nokomy*, that time is coming; *Ma anera acime vere*, for those (things) we work; *Tasi eipesia nohua*, *ma sece toria fakatapuria nohua*, one scatters seed, and another gathers and saves up the fruit; *Faru neitucua*, some said.

5. No reflexive or reciprocal pronouns appear.

Thou lovest thyself, is translated, *akoi acitiafakaraia akoi*, thou lovest thee; We love one another, is *acitia acitiafakaraia tasi ma sece o acitiotshi*, we love one and another of us all. The adverb *ana* is sometimes suffixed to the pronoun. *Ta nontariki aiana setomatua vere*, the son himself (lit. he only) is not able to work.

V.—Possessive.

1. The noun *tsha*, a thing belonging, is used as a possessive pronoun. With a suffixed pronoun it takes the following forms:

Singular 1. *tshaku*; 2. *tshou*; 3. *tshana*.

Dual 1. Inclusive —; exclusive *tshamawa*; 2. *tshorua*; 3. *tsharawa*.

Trial 1. Inclusive —; exclusive —; 2. —; 3. *tsharatou*.

Plural 1. Inclusive *tshote*; exclusive *tshome*; 2. *tshowa*; 3. *tshure*.

¹ "Nineteen Years in Polynesia," by Rev. G. Turner, London, 1861. The pronouns of Mele as given by the same authority are:—Singular 1. *avau*; 2. *akoe*; 3. *ia*. Dual 1. *taua*, *maua*; 2. *korua*; 3. *rawa*. Plural 1. *tatou*, *matou*; 2. *koutou*; 3. *latou*.

Examples: *Tshaku konouri*, my flesh; *Tshou fare*, thy house; *Tshana roto*, his heart; *Tshamawa nuntama*, of us two the son; *Tshorua nuntama*, of you two the son; *Tsharawa nokave*, of them two the brother; *Avai tsharatou*, the legs of them three; *Tshote nele*, of you and me the friend; *Tshome norima*, of him and me the hands; *Tshowa kabisa*, your joy; *tshare weina*, their wine.

2. The noun-preposition *nia*, is used in a similar way. See IX, 3.

3. *Tsha* is found in use with nouns. *Ta fare tsha Onesiforus*, the house the property of Onesiforus; *Avere tsha notshino*, works belonging to the body.

VI.—Adjectives.

1. A few simple adjectives are found: *sore*, great; *sisi*, small; *fou*, small (Samoan *fou*); *fouu*, full; *pouri*, dark (Samoan *pouli*); *ma*, pure (Samoan *ma*); *sape*, crippled (Samoan *sape*).

2. The prefixes of condition, *ma* and *ta*, seem to occur in the words *mero*, withered (Samoan *malo*, hard); *mtacu*, afraid (Samoan *mata'u*); *mafa*, heavy; *mukaligi*, cold (Samoan *ma'aligi*); *tarn*-weak, slow; *tara*, tame (Samoan *tala*, untied).

3. Reduplicated forms appear: *totonu*, straight; *ouraoura*, purple (Samoan *ulaula*).

4. Adjectives follow their nouns, and are often used with the verbal particles: *noreo palo*, a voice loud; *avere sore*, works great; *tatane nimace*, the man (that was) sick; *tagata komate*, men (that are) dead.

5. Comparison is made by the word *kage* following the adjective: *ane isa sore kage*, a worse thing; (lit. a thing bad great above); *Aia sore kage avou*, he is greater than I.

6. Demonstrative and indefinite adjectives are: *nei*, this; *ra*, that; *tasi*, one; *jimra tasi*, not one, no, none; *faru*, some, *iotshi*, all; *toru*, few; *nalupai*, many.

VII.—Verbs.

1. Any word may be used as a verb, with or without a verbal particle. *Amori koma kotenei*, worship pure this; *avou tufwa*, I give; *aia kotufwa*, he gives. The particles have no distinction of person or number. A distinctly verbal character is given to a word by the particle *ko* (the Polynesian *kua*) which appears to have no tense signification but is most frequently used in the present.

2. Mood. A participle is formed by *noko*: *avou nimy nokobaptiso i tarai*; I came baptizing with water; *avou neicitia ta nokano nokofaniso ia ta ragi*, I saw the spirit descending from Heaven; *ta mana nokomouri*, the father living.

The infinitive is expressed by *kei*: *tomatua keifakairo*, able to teach; *avou nakamo ane nalupai keitucua*, I had things many to say. Imperatives. The simple verb with or without *ko* shows the imperative: *sara ma kowcitia*, search and look. "Must" and "ought" are denoted by *crefia*, good, at the beginning of the

sentence: *erefia aia komate*, he ought to die, (lit. good he dies); *erefia acowa kofarere foce*, ye must be born again (lit. good ye are born again.) Prohibition is expressed by the verb *natshicina*, leave, and desire by *acitiasakarafia*, to desire, love; *natshicina aia*, leave her; *natshicina mtacu*, leave fearing, do not fear; *acime acitiasakarafia kowcitia aia*, we desire (to) see him.

The subjunctive or conditional is introduced by the conjunction *pe*, if or that. The particle *muka* seems also to mark the conditional. *Atua nikowna tshana nontariki pe acitia mukoamo anea mouri*, God sent his son that we might have life; *pe acitia mukeiro*, that we may know; *pe acre mukafeke*, that they may depart. "Would" and "should" are expressed by *nukow*: *Akoi nukownogia aia*, thou wouldst ask him; *aia nukowtufwa*, he would give.

Power to do an action is shown by the word *tomatua*, power, able: inability by *taru*, weak, unable. *Akai tomatua fakarogona ra?* Who (has) power to hear that? *aia tomatua keipurutshia anera*, he is able to keep thing that; *acre kotaru torotshia my kowpega*, they are not able to draw hither the net; *aia kotaru vere hepra*, he is unable to work like that.

3. Tense. The particles denoting tense are: *ei*, present (?); *nei* or *ni*, past; *naka*, perfect; *ka*, future. *Akuli eiro*, dogs know; *tasi eipesia*, one scatters; *aia neitufwa*, he gave; *aia neitucua*, he said; *aia nimy*, he came; *aia nifeke*, he departed; *avou nakacitia*, I have seen; *avou nakafakoko*, I have fought; *acowa kasara avou*, ye shall seek me; *avou katufwa*, I shall give.

It is doubtful whether *ei* is a present particle, most verbs have *ko* only: *avou koutucua*, I say; *aia komy*, he comes. The immediate future is sometimes expressed by *noko*: *Wamuri avou tasi nokomy*, after me one is coming.

4. The causative prefix *faka* is seen in *fakairo*, to make know, teach; *fakatonusia*, to make straight, stretch; *fakariake*, make plain, shew; and many others. A shorter form *fa* is also found: *fakeina*, make eat, feed.

5. The terminations *a*, *fia*, *cia*, *ia*, *na*, *gia*, *ria*, *sia*, *tia*, *tshia* are found suffixed to verbs. In Samoan and Tongan these denote the passive voice, but it is doubtful whether they have the same use in Aniwa. "One bone of him was not broken" is translated *tasi newi tshana setoutshia*; but examples like *akoi nitaka*, thou girdedst thyself, and *tasi foce katakaia akoi*, another shall gird thee, seem to show that the terminations are sometimes equivalent to the Melanesian transitive suffixes.

6. The interrogative is indicated by *mo*, or, at the end of the sentence. *Akoi tasi teriki mo?* Art thou a chief?

7. The negative is *se*, used with all the particles: *Avou sekoma*, I am not ashamed; *senokoamo ane isa*, not having a thing bad; *acowa sekacitia avou*, ye shall not see me.

8. The verb "to be" is expressed by the particles. *Tenei ko acitiasakarafia*, this is love.

9. The verb *my*, *mai*, come, has a plural *romy*. *Aia komy*, he comes; *acre niromy*, they came.

VIII.—Adverbs.

1. Directive. *Kace*, up; *ifo*, down; *mai*, my, hither; *fano*, ace, ake, thither; *efuafo*, forth.

2. Interrogative. *Mo*, at end of a sentence in asking a question: *konapecua*? how? *wehe*? where? whither? whence? *tiaha*? why? *enaia*? when?

3. Time. *Milow*, *milowa*, now, immediately; *ituai* of old, long ago; *foce*, again; *nopogi ma nopogi*, days and days, always; *tou ma tou*, years and years, for ever; *nopogi toru*, a few days; *mokagi*, before; *fakaliki*, together; *fakosore*, many times; *fakasisi*, a little time; *iranei*, to-day; *iraton*, to-morrow.

4. Place. *Iai*, here; *icunei*, here; *watai*, on the shore; *wamuri*, behind; *watafa*, outside.

5. Manner. *Ana*, only, entirely. Adjectives are used as adverbs of manner. *Avou nibisa sore*, I rejoiced greatly; *akoi imna erefia*, thou doest well.

IX.—Prepositions.

1. Simple. *O*, a, of; *e*, i, in, at; *i*, *ia*, to; *ia*, through.

2. Many prepositions are compounded of a noun and a simple preposition. *Iluga*, above, on the top; *iraro*, *iroro*, at the bottom, under, below; *iroto*, in the heart, inside; *itata*, at the side, near; *emoa*, in the front, before.

3. The preposition *nia*, of, belonging to, is a noun and takes the suffixed pronouns.

Singular. 1. *Niaku*; 2. *niau*; 3. *niana*;

Dual. 1. Inclusive —; exclusive —; 2. —; 3. *niarowa*.

Plural. 1. Inclusive —; exclusive —; 2. —; 3. *niare*.

X.—Conjunctions.

Ma, and, for; *mo*, or; *kaia*, but, how; *pe*, if, that; *hepe*, so, like, as, while; *iane*, for the thing this, because; *ianera*, for the thing that, therefore; *ana*, also.

XI.—Numerals.

1. Cardinal. *Tasi*, one; *rua*, two; *toru*, three; *fa*, four; *rima*, five; *ono*, six; *fitu*, seven; *varu*, eight; *iva*, nine, *tagafulu*, ten. A set of numerals adopted from the English is in use in translations. *Wun*, *tu*, *thri*, for, *faiv*, *seks*, seven, *et*, *nain*, ten, *twelv*, *hundert*, thousand. The verbal particle *e* is used with the numerals.

2. The causative *faka* forms the ordinals, *fakarua*, second; *fakatoru*, third; once is *tasi*.

3. Distributives are expressed with a conjunction: *Tasi ma tasi*, one by one.

4. Multiplicatives are formed with *tshici*; *tshici fitu*, seven times; *tshici efia*? how many times?

XII.—*Exclamations.*

Keini! keine! yea! Jimra! nay! Kawe! woe!

XIII. *Specimens.*

Of the following No. 1 is the Fotuna Paternoster, as given in Dr. Steel's "New Hebrides," and No. 2 is the same in Aniwa. They are given, as showing the great similarity of the two dialects.

1. *Fotuna Paternoster.*

Tamanomy iragi. Kitapu tiau igoa. Kimai tiau avaka tagata. Kipenei tiau finagaro i takere nei feipei iragi Tufa mai akai tau rufe y kimy iranei. Tunki iomy kauligine sa feipe akimy natauaki kauligine sa o faruki y kimy. Koina arafy kimy ki kauligine eresy. Kapena mauri kimy i tasa. Niau tavaka tagata ma tatamotau ma teatata y napugi ma napugi. Emen.

2. *Aniwa Paternoster.*

Tamanome tiragi. Tshou neigo tapu. Tshou tavaka komy. Tshou afasas erefia acre ia fanua wararonei fakarogona hepe i tiragi. Tufwa acime iranei tshome akai. Towaki nori maganisa tshome; hepe acime towaki nori o maganisa o tagata acime. Natshicina acime ia teretu o maganisa, kaia kapare acime ia ane isa iotshi. Ma tshou tavaka, ma tomatua, ma nokabisa, atou ma tou. Emen.

3. *Aniwa. John XXI, 9-19. From the Rev. J. G. Paton's translation.*

9. Milowa acre niromy ia fanua, acre neicitia tiafi o tafia marara iai, ma eika neinage iluga aia, ma bret.

10. Iesu neitucua iacre, Amy faru focce o eika acowa milow niamo.

11. Saimona Pitrus nifano iateia, ma nitorotshiamy takowpega ia fanua, nifonu o eika sore, wun huntret, ma feffe-thri; ma acre nalupai su ma sefasia takowpega.

12. Iesu neitucua iacre, koromy ma kakeina aia tonate. Ma jimra tasi o niana tagata aia nifakairo tomatua nifakowia aia. Akai akoi? acre neiro aia ta Teriki sore.

13. Iesu nimy, ma niamo bret, ma neitufwa iacre, ma eika focce.

14. Tenei fakatoru Iesu nifakariake aia ia niana tagata aia nifakairo, wamuri aia nimasike ia tagata nimate.

15. Wamuri acre nikeinace, Jesu neitucua ia Saimona Pitrus, Saimona, nontariki o Iona, akoi acitiafakarafia avou sore kage acre ra, mo? Aia neitucua iateia, Keine Teriki sore; akoi keiro avou acitiafakarafia akoi, Aia neitucua iateia, Fakeina tshaku alam.

16. Aia neitucua focce fakarua, Saimona, nontariki o Iona, akoi acitiafakarafia avou, mo? Aia neitucua iateia, Keini Terike sore; akoi keiro pe avou acitiafakarafia akoi. Aia neitucua iateia, Fakeina tshaku asip.

17. Aia neitucua iateia fakatoru, Saimona, nontariki o Iona. Akoi acitiafakarafia avou, mo? Aroto o Pitrus nimy sore wamuri

aia neitucua fakatoru iateia, Akoi acitiafakarafia avou? Ma aia neitucua iateia, Teriki sore, akoi keiro ane iotshi; akoi keiro pe avou acitia fakarafia akoi. Iesu neitucua iateia, Fakeina tshaku asip.

18. Tamari, tamari, avou koutucua iatakoi, Nopogi ra akoi tasisi, akoi nitaka ma nitakaro ia none akoi acitiafakarafia, kai taha nopogi akoi tatane sore, akoi kafakatonusia tshou norima, ma tasi foce katakaia akoi, ma takoa akoi i none akoi secitiafakarafia.

19. Tenei aia neitucua, keifakairo ta mate aia maganerefia ia Atua iateia. Wamuri aia nifasao ra iateia, aia neitucua iateia, Komy wamuri avou.

RACIAL PHOTOGRAPHS FROM THE EGYPTIAN MONUMENTS.—A series of 190 photographs of the various races conquered or visited by the Egyptians, was taken from the monuments by Mr. Flinders Petrie in 1887, with the assistance of a grant from the British Association. It is now available for students at the cost price of printing copies. Applications should be made for prints to Mr. Browning Hogg, 75, High-street, Bromley, Kent. If a selection is wanted, a set will be sent, any of which can be detached from the titled sheets by the purchaser, at 2s. 3d. per dozen; those not required should be at once returned in the sheets to Mr. Hogg with the remittance for those kept. If a whole set is wanted, it will be sent pasted on sheets of parchment paper, with printed titles, on receipt of 45s., postage included. With each whole set, a copy of Mr. Petrie's report, and Mr. Tomkins' paper on the geographical identifications, will be sent if requested, so far as the number of copies allowed by the British Association will permit.

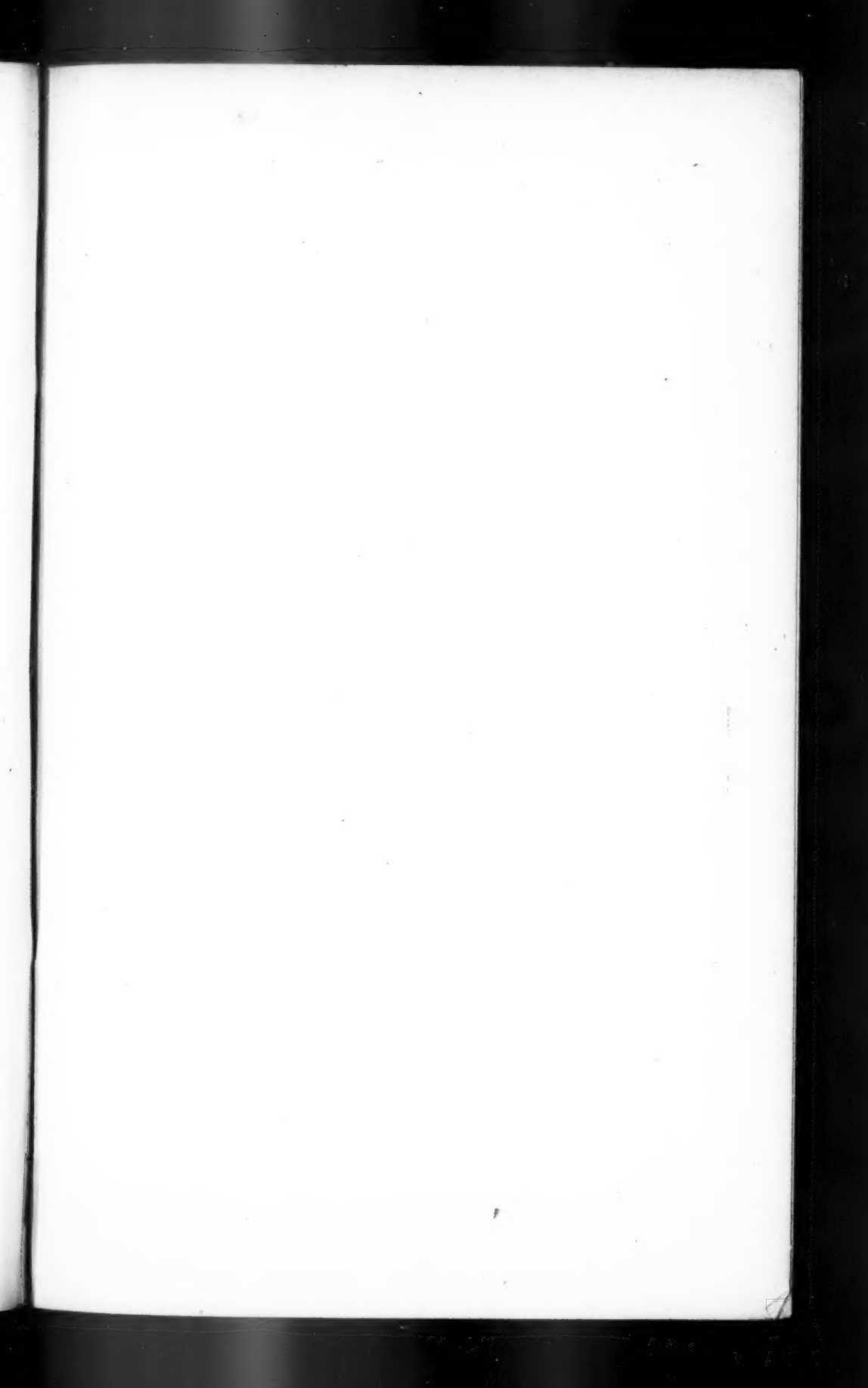
The photographs are mainly from plaster casts, and are therefore far clearer than if directly from the stone. Each has the ancient name from the hieroglyphs, and the modern equivalent, so far as the names can be identified. The situation of each sculpture is stated in the report. All are of the XIXth dynasty, and at Thebes, unless otherwise stated in the titles. Where an interrogation is put, either the ancient name is not expressly stated, but is inferred from similar sculptures, or else the modern name is not a certain identification. Where there are various theories on the identifications, the least unlikely has been adopted without any wish to assert its probable truth. The order of arrangement is such as to bring together the various peoples who have resemblances worthy of notice, such as the Punites and Philistines (Poeni); the Tahennu, Hanebu, and Thuirsha; the Derdeni and Amorites, &c., subject of course to placing those of one name together.

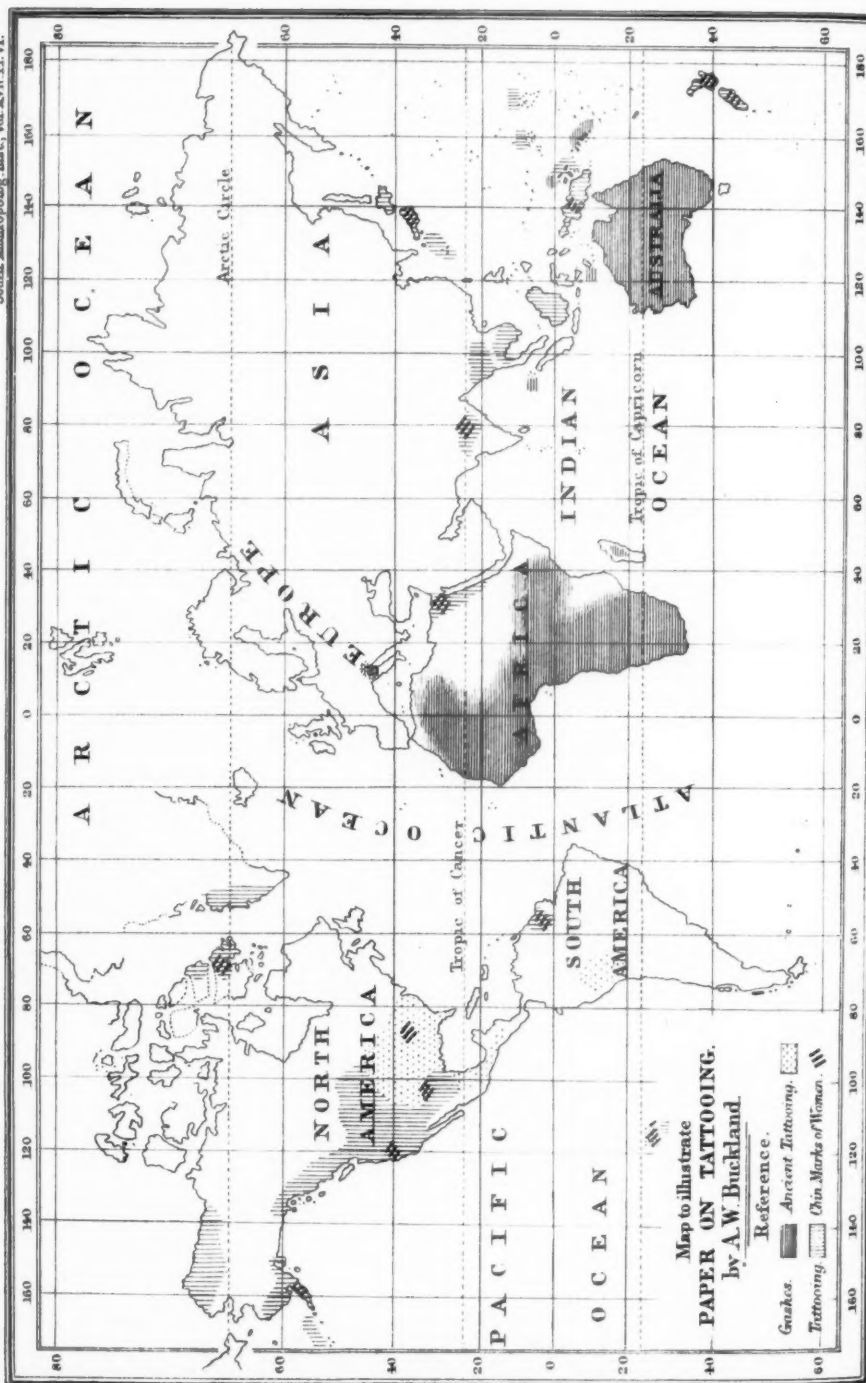
THE RACES OF INDIA.—The following is an extract from a letter by Sir George Campbell, K.C.S.I., D.C.L., which appeared in the "Times" of January 24th, 1888:—

"It is certainly the case that Bengalees have not served in the army and have the credit of being unwarlike. On the other hand they have shown a decided receptivity not only for English education but for European social ideas; they are often physically

robust, and when I introduced gymnastic training in the schools they really exhibited great forwardness and aptness. *Per contra*, it must be said that they show great backwardness in filling our schools of engineering, and that they seem wanting in mercantile energy. I see the chairman of the East India Railway, referring to his rivals on the other side of India, complains that the people of Bombay are ten times as energetic as those of Calcutta. In manufactures and trade the Bombay natives certainly are very much in advance, but I suspect this in a great degree due to the presence of certain very energetic mercantile classes—Parsees and Marwarees—rather than to a very general superiority of the people of the Bombay Presidency.

At any rate, I must say that Sir Lepel Griffin's address to the people of Gwalior, contrasting unfavourably the Bengalees with "you Mahrattas," was curiously out of place. I have administered a Mahratta country in the Central Provinces, and taken a great deal of trouble to find out what is a Mahratta. Using "Mahratta" in the wide sense in which we use "Bengalee," as applied to the whole Mahratta-speaking race of Maharastetra, the Mahrattas are by no means a very warlike race, but rather the contrary—a quiet agricultural people, not very fine or robust. It is notorious that many Bombay officers used to try to fill their regiments with Hindostanees because they did not think the Mahrattas a sufficiently fine raw material. The people connected with the Royal family of Nagpore (which was, I think, connected with that of Sivajee), used to insist that the term "Mahratta" could only be properly applied to the original small tribe from the Sattara country to which Sivajee belonged. In that sense they now hardly exist. The Mahrattas whom we encountered were a miscellaneous mercenary horde comprising not only all sorts of Hindoos but very many Mahomedans from all parts of India. It is well known that neither Scindiah, Holkar, nor the Guicowa are Mahrattas in any limited sense, but represent low-caste adventurers in the Mahratta armies. Scindiah conquered the Gwalior territories, but there is not one indigenous Mahratta in all that country—it is a Hindostanee country throughout. A certain number of Mahrattas (using the term in the widest sense) followed the original Scindiah, but the great object of the late ruler was to get rid of all those having hereditary claims upon him, and the only Mahrattas who could have been among Sir L. Griffin's audience must have been a few effete pensioners. The Mahrattas who for administrative purposes would come into competition with the Bengalee Baboos are the Mahratta Bramins—a singularly acute, pushing, and distinguished race, on the whole I rather think superior to the Bengalees. But these people have accepted English education, English ideas, and what I may call "political bumptiousness," quite as much as the Bengalees—they have not the least reason to fear that they will be overridden by Bengalees.





Map to illustrate
PAPER ON TATTOOING.
by A.W. Buckland.

Reference.

Gashes. Ancient Tattooing. Tattooing. Chin Marks of Women.